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ABSTRACT

Written for those who become involved in a library building project, this manual deals with the basics--from appraisal or needs assessment through planning, design, construction, and occupation. It is equally concerned whether the project involves remodeling, expansion, or a new structure and should be useful regardless of the size or nature of the project. The initial chapter provides a brief overview of the entire process with references to following chapters that deal with specific stages in detail. Because of their predominance in Wisconsin, community libraries serving populations ranging up to 25,000 are the main focus, and the needs of the library user are emphasized. Appendices provide sample pages from a library building program, a suggested list of topics for a building program, and suggested questions for use in interviewing architectural firms. A bibliography and index are also included. (Author/JD)

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WISCONSIN LIBRARY BUILDING PROJECT HANDBOOK

by

Raymond M. Holt, Library Consultant

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Bureau of Cooperative & Public Library Services,
Division for Library Services,
Wisconsin Department of Public Instruction,
Madison, Wisconsin

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This *Wisconsin Library Building Project Handbook* has been written by Raymond M. Holt, Library Consultant from Del Mar, California, to implement one of the goals of the Division for Library Services "Comprehensive Long-Range Program." The preparation of the *Handbook* has been funded by Library Services and Construction Act Title II. The *Wisconsin Library Building Project Handbook* is being provided for the use of trustees, librarians, government officials, concerned citizens, architects, engineers, interior designers, and all others concerned in one way or another with improving community library facilities. The *Handbook* fills a gap in the literature resources on this subject and should serve as a useful resource for those concerned with planning better library buildings in Wisconsin.

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1978

PREFACE

The writing of the *Wisconsin Library Building Project Handbook* has been an exciting challenge made possible by the cooperation of the Bureau of Public & Cooperative Library Services of the Division for Library Services. Special thanks must go to Kathleen Imhoff, former Director of the Bureau, and to Sally Drew, her successor. Appreciation must also be expressed to Mr. W. Lyle W. Eberhart, Assistant Superintendent and Administrator of the Division for Library Services in the Wisconsin Department of Public Education.

In its annual "Comprehensive Long-Range Program for Library Services," the Division for Library Services has consistently recognized the need for improving library facilities in many parts of the state. The preparation and publication of this *Handbook* has been one of the specific means sought to help achieve the goal of adequate library buildings in Wisconsin.

The preparation of this text was preceded by visitation of many library buildings throughout Wisconsin and discussion with a number of librarians and others concerned with library facilities. The objective has been to create a useful tool which will enable those responsible for library buildings to evaluate their building needs and initiate such measures as may be required to provide adequate facilities. This *Handbook* is not considered a complete reference book on library building projects by any means - at best it will provide a point of departure and introduction to other sources. The measure of the *Handbook's* success will be determined by the contribution it makes to those who use it in carrying out library facility projects in Wisconsin

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INTRODUCTION

PLANNING LIBRARY FACILITIES

This *Handbook* has been written for those who become involved in a library building project as a part of their responsibility for community library service. The text deals with the basics from appraisal or needs assessment through planning, design, construction and occupation. It is equally concerned whether the project involves remodeling, expansion, or a new structure. Since the effective delivery of library service is profoundly influenced by the availability of adequate and appropriate facilities, this *Handbook* addresses one of the fundamental duties of all who are responsible for library service. As a resource book it should be useful regardless of the size or nature of the project.

Library building projects are complex undertakings which may commence at many points. For this reason Chapter I provides a brief overview of the entire process to provide the reader with a frame of reference before becoming involved with the individual steps. While some readers will wish to pursue the text in the order of presentation, others will find a primary interest in a particular portion or portions of the *Handbook*.

Because of their predominance in Wisconsin, community libraries serving populations ranging up to 25,000 or so are the focus of this *Handbook*. However, much of the information should be found applicable to larger libraries as well. The problems, processes, and programs for remodeling and/or expanding existing structures are similar to those encountered in planning a totally new library building or in rehabilitating for library use a structure originally serving another purpose.

The focus in these chapters is on the needs of the library user. Represented by library boards and, in some communities by special citizen committees and/or friends of the library organizations, the user's needs must always be the ultimate determinant in library facility planning. Input by the user should be sought and used in determining library facility needs.

Today profound changes are occurring in public library service, brought about by the more complex needs of the library user, the continuing explosion of knowledge which has resulted in massive increases in printed matter, the accelerating growth in nonprint media, the growing capacity for automating certain library operations, and the new concepts in library systems and networks. Library facilities are directly implicated in these developments since each imposes space requirements. As a result, public libraries are more apt than ever before to require renovations, additions, or new structures.

Although written primarily from the standpoint of the library administrator, the text of the *Handbook* should be useful to all who may become or are engaged in library building projects. The role of the library board is frequently referred to as well as the part played by the architect, library building consultant, interior designer, and building contractor. While the *Handbook* provides background information and guidelines for those participating in library building projects, additional help is always available through Wisconsin's Bureau of Cooperative and Public Library Services, Division for Library Service, Wisconsin Department of Public Instruction, headquartered in Madison.

Solving the community library's space requirements in a satisfactory manner is a worthy challenge for those who accept this responsibility. It is neither a brief nor simple task. If this *Handbook* enables those who accept this challenge to produce library facilities which will improve the effectiveness of library service delivery in Wisconsin, it will have achieved its goal.

CHAPTER I

CREATING ADEQUATE LIBRARY FACILITIES - AN OVERVIEW OF THE PROCESS

Before becoming involved in the details of library building projects, it seems worthwhile to look at the process in terms of the basic steps which must be taken. One of the things which tends to confuse such an overview is the fact that a building project can either be the result of a logical pursuit of a well defined plan, or suddenly entered into as the result of an unforeseen circumstance. While the latter situation may change the order in which certain steps will be taken, it seldom precludes the need to run the same course. For instance, building projects are sometimes precipitated by an unexpected bequest of funds, or a desirable site may suddenly become available. Occasionally, the physical condition of a building becomes untenable through natural or man made causes and the library is forced to find a new home. Urban development plans, relocation of major highways and freeways, or the opportunity to construct a library as part of a civic or community center may also trigger a library building project. Nonetheless, adequate planning requires that the same ground be covered.

Basically, a building project can be divided into several relatively distinct segments, although the first two overlap. These phases may be thought of as the (1) Conceptual Phase, (2) Planning Phase, (3) Architectural Implementation and Development Phase, (4) Interior Design and Furnishings Phase, (5) Construction Phase, and (6) Occupation Phase. For those facing a building project it is important to clearly distinguish the various parts which constitute each of these phases and thereby establish meaningful schedules and priorities. To the uninitiated, it seems that everything must be done at once; yet each step appears to depend upon the fulfillment of some other requisite. Sorting these out and placing them within a proper context is the purpose of this chapter and this publication. While each project may follow a slightly different path, because of local and/or unusual circumstances, the essential steps remain the same. By understanding and recognizing the six major project phases and the several subdivisions in each, the library administrator is in a much better position to fulfill his or her key role.

In this overview chapter it seems logical to follow the more normal sequence for building projects even though their exact order must be adapted to the local situation. These various steps appear common to most successful library building projects - those in which an adequately sized, properly designed, and user-oriented building has been the end product. Eliminating or drastically curtailing any of these steps is almost inevitably going to show up in deficiencies which could have been avoided.

I. CONCEPTUAL PHASE

The first phase consists of those steps in which the building project has its origins. The actual point of beginning may differ from one community to the next, but the genesis will probably cover about the same ground.

A. NEEDS ASSESSMENT

Do you really need a new, remodeled, and/or expanded library facility? This may appear to be a question so elementary that it borders upon the absurd. Yet, in most instances, the response to this question is where the building project gets its start. Those who may eventually be called upon to answer this question by approving funds for the building are most anxious to be reassured that the need for additional space has been carefully established. To do so requires (1) analysis of community needs for library services and materials, (2) projected growth of library collections and staff, and (3) plans for the development of additional library services. The more carefully these and related questions are studied and documented, the better the library administrator can assist those concerned with the building project. The entire building project process is an accumulative one with information gathered in each phase used in subsequent phases. As a part of the educational process related especially to this and the next step, it is important for the library administrator and others vitally concerned with the building project to become familiar with current library design. This can be accomplished through visitation to recently constructed buildings and the study of literature on this subject. (Needs Assessment is discussed further in Chapter II.)

B. EVALUATING ALTERNATIVES

Having determined that a need for space exists, the next step is to evaluate the alternatives. The feasibility of each alternative depends upon many factors, including the amount and type of space required, condition of the existing structure, site availability, and factors which may be peculiar to the local community. In any case, at least four alternatives may be weighed: (1) remodel the existing library, (2) expand and remodel the present facility, (3) convert another structure to library use, or (4) design and construct an entirely new library building. In the long run much time can be saved if each of these alternatives is carefully and fully explored initially. This means establishing criteria for the impartial evaluation of the alternatives. Admittedly, assumptions of space requirements and costs will be required which can only be rough estimates at best. Nonetheless, when such information is conscientiously evaluated a useful pattern usually appears which indicates the best course of action. (The purpose of Chapter III is to discuss these various alternatives.)

II. PLANNING PHASE.

After the foregoing preliminaries have been completed, actual planning can begin. This includes the preparation of the building program and the assembling of the project team.

A. THE BUILDING PROGRAM.

It is difficult to locate the precise place of the building program in the library facility project sequence. Sometimes a building program is the very first step taken once the need has been sensed or established. In other cases, concern over resolving major factors such as financing and site may postpone the preparation of the building program. However, it is safe to state that a written building program should be prepared sometime following the realization that a facility program is needed and prior to the employment of an architect.

A well prepared, written building program is the key factor in the design of most successful library buildings. Among other things, it provides the library administrator and staff an opportunity to review the library's services and operations from a new vantage point, forcing them to establish priorities, evaluate alternatives, and make decisions which should result in improved service to users and greater operating efficiency. The library administrator must thoroughly understand the purpose, objectives, and content of the building program. This can be done by reading appropriate literature and by studying building programs which have resulted in good library structures elsewhere.

When the project reaches this stage a determination must be made as to who will be responsible for the preparation of the building program. Will it be written by the library administrator or by a library consultant? - a person with experience in analyzing library space requirements and relationships and presenting this information in the form of a building program. Occasionally an architect may be chosen for this task, but only if there is a strong and knowledgeable staff for information input and review.

The person responsible for writing the building program must know what data will be useful to the architect, understand how it can be gathered, and be able to present it meaningfully. This requires an understanding of basic architectural concepts and language such as relationship drawings and flow diagrams. Preparing the building program involves countless hours of research, study, review with staff and others, as well as writing. Many decisions are required for the completion of this process. The person charged with the responsibility for preparing the program must have adequate time for this lengthy and intensive task. (Chapter IV deals with the details of preparing the building program.)

Although the building program is written specifically for the use of the architect, it also serves to provide a common basis of understanding among the project team, and a foundation for future decision making. If possible, the document should receive the official endorsement of the governing authority and be incorporated, by reference, into the architect's agreement thereby assuring that full attention will be given the program.

B. ASSEMBLING THE PROJECT TEAM

Bringing together those who will serve on the project team is another part of Phase II. Some who read this *Handbook* will be involved with projects too small to require a full scale project team - or at least one in the formal sense. Still, the concept is useful since those who work together most closely on a project form such a team whether so recognized or not.

The more formal project team is a relatively recent development growing out of the need for the continuous involvement of all interested parties in the planning and construction of major buildings. It offers the best method yet devised for insuring maximum input and control at all stages of the project.

Normally, the project team includes (1) the owner's representative (Library Board member, City or County official), (2) the architect, (3) the library administrator, (4) the library building consultant, (5) the City or County building official, and (6) the building contractor following award of bid. Others may be asked to join the project team, depending upon the size of the project and local conditions. Sometimes this includes special engineering consultants, representatives of particular groups from the community such as the physically handicapped or minorities who may feel they have a special stake in the library building. Each member of the project team should have official authorization to serve in this capacity, and an understanding should be reached as to the scope of his responsibilities and authority. This will avoid the possibility of conflict later in the project.

The project team will meet frequently and intensively as the architect's work moves forward. Therefore, membership must be restricted to those who can and will be able to meet for long periods of time on short notice. The project team is a working group in every sense of the word and not a place for rewarding individuals in the community for public service. A good deal of homework is usually involved and the ability to communicate ideas, adjust to others, and maintain an effective working relationship over a long period of time are essential characteristics. (Chapter VII further describes these and other aspects of the project team approach.

C. CHOOSING AN ARCHITECT

During the planning period, and as a part of bringing together the project team, it will be necessary to choose an architect. Normally, the choice of the architect should be made after a certain amount of work has been accomplished assuring the future of the project. In most instances, the building program will have been prepared, a site determined, and a method of financing assured. Of course, it is sometimes necessary to retain the architect to assist in determining such things as site adequacy, approximate project costs, etc. In such instances, the architect should have full understanding as to whether or not the client intends to use the firm for the entire project. Fees for preliminary work may or may not apply to the total fee, depending upon the nature of the contract.

In any case, the choosing of an architect is a serious matter requiring skill and understanding. The library, Library Board members, and others concerned with the choice should be fully aware of the architect's role and responsibilities. A formal application, plus an interview, are often used in the selection process. (This is explained in some detail in Chapter VII.)

III. ARCHITECTURAL IMPLEMENTATION AND DEVELOPMENT

The Planning Phase begins with the onset of the architectural process. As a first step, the architect becomes completely familiar with the written library building program, discussing it in detail with the project team. Then the analysis begins with space allocation and adjacency or space relationship sketches and site studies. These early studies determine how the major requirements of the building program can best be met.

Following this preliminary phase, the architect provides some simple conceptual sketches relating the basic spaces to one another and to the site. These sketches are refined to become the schematic design - the first of the three major phases of architectural development. The schematic phase will result in drawings which broadly define the floor plan and elevations. In other words, you will know what the building will look like and how the major functions will be organized. In the case of a remodeled and/or expanded building, this will also include a solution to the problems of linking a new structure to the old. The architect should be encouraged to spend as much time as necessary on the schematic drawings for it is here that the basic problems must be resolved.

After the schematic drawings have received the approval of the governing body empowered to accept them, the architect proceeds with the preliminary design, also known as the design development phase. During this period, modifications are made as necessary to the schematics. The floor plans receive careful scrutiny to be certain that every function and operation has been provided. Exterior elevations

are drawn of each side of the building to show how it will be designed. One or more sectional drawings may be made to indicate the internal relationships of key wall structures, ceilings, roof, and floor. Unless provided as part of the schematic phase, these drawings will be accompanied by outline specifications which describe the building system and the materials to be used.

After the preliminary plans have received official approval the architect enters into the third stage which will result in working drawings and specifications. The end product is a set of drawings which describe in great detail every facet of the building and how it is to be constructed. The specifications, which will make a good sized volume on most projects, constitute a detailed set of instructions to govern the selection of materials, procedures, quality of workmanship, and the guarantees and/or warranties required of the contractor who erects the building.

During each stage of architectural planning, members of the project team should have occasion to examine the drawings in detail. Once the final revisions have been made to the working drawings and specifications, these items become a part of the bidding documents and the project is ready for the building contractor. (The complexities of the Architectural Implementation and Development phase are considered in some detail in Chapter VIII.)

A. PLANS ANALYSIS

As the planning proceeds, the library administrator must carefully review the drawings to determine whether the program requirements are being met and how well the building appears to operate. This review process requires an ability to read blueprints and interpret them accurately. Certain symbols frequently used by architects and engineers should be committed to memory. Plans analysis should include a study of traffic flow created by users, staff, and library materials.

Coordination of the plans with the building program requires tabulation of stack capacities, seating, etc., and comparison with the program statement. Each area of the library should be separately analyzed in terms of its particular characteristics. Usually, this can be done by seeking answers to specific questions which relate to the area. (Techniques of blueprint reading and plans analysis are provided in Chapter IX.)

IV. INTERIOR DESIGN AND FURNISHINGS

Unlike the other phases which run more or less in sequence, Phase IV, which concerns interior design and the selection of furnishings, begins somewhere during the Architectural Phase and is not completed until the end of construction. In fact, some information about desired furniture and equipment will appear even earlier as part of the building program to provide general guidance.

A. INTERIOR DESIGN

Interior design and the selection of appropriate furniture and equipment are complex parts of the building project. The architect usually has some competence in this area but may appreciate the assistance of an interior design consultant, qualified by training and experience to provide a further degree of expertise. Since the public's reaction to the building will be largely conditioned by what they see - colors, textures, furniture, and styles - it is extremely important that all of the elements be carefully coordinated or orchestrated into a pleasing total experience. The process is complicated by the multitude of materials, finishes, colors, and styles which are now on the market. To select the most appropriate items requires a knowledge of the range of choices available, an appreciation of the library services to be provided, and the atmosphere which the library building is to offer. Floor and wall coverings need special attention since they do much to set the spirit of the building.

B. FURNITURE SELECTION

After analyzing the requirements for each piece of furniture, and studying the items available on the market, the architect or interior designer will usually assemble a number of alternatives for project team evaluation. Depending upon availability, these pieces of furniture may be represented by actual samples, photographs, swatches of materials, color samples, and descriptive statements. In many instances, sample pieces may be assembled or the project team taken to furniture showrooms for a demonstration. The finer points of the furniture, including construction, durability of materials, and finish maintenance requirements should be analyzed before a decision is made on each piece. In some cases the architect or interior designer may choose to ask the manufacturer to redesign a given item to eliminate an undesirable feature and/or provide greater strength or durability.

Once the choices have been made, specifications are carefully written. Depending upon the local jurisdiction's regulations, items of furniture may be purchased directly from a vendor or may have to be submitted to bid. If the bidding method is followed, the list of furnishings is usually divided into groups which combine similar kinds of furniture to facilitate bidding and analysis of the bid results. For instance, table and chair seating might be separated from lounge seating; shelving is often bid separately from other types of library furniture such as atlas cases, dictionary stands, and card catalogs.

The purchasing of furniture and equipment normally occurs sometime after construction of the building begins except for small projects which will take only a short while to complete.

Availability of furniture varies widely from one time to another and the architect or interior designer must keep aware of market conditions, thereby knowing what schedule should be followed to make certain that the items purchased will arrive before the building opens.

Furniture may begin to appear on the scene before the building has been finished. This means that a secure place with adequate temperature and humidity control must be found for temporary storage. As the items arrive they should be carefully inspected by the architect or interior designer for possible defects or damage. When the building is ready, each piece of furniture, beginning with the shelving, will be placed precisely according to the agreed upon layout scheme. After this has been done, the building is ready for occupancy.

The foregoing comments concern what is called movable furniture. In addition, the library will probably have built-in furnishings, including counters, desks, and cabinets. These will be designed by the architect or interior designer during the course of architectural development. They may be a part of the general building contract or bid as a separate item by cabinet makers. Such furnishings, referred to as case work, must be carefully reviewed by the library staff to make sure each item will fulfill its desired function. Based on the use it is to receive and its location in a public or staff area, the architect or interior designer will specify the types of materials and finishes to be used in its construction. Case work will be installed as the building nears completion and deserves the same careful scrutiny as other items of furnishings. (Interior design and furnishings are discussed further in Chapter X.)

V. CONSTRUCTION

The next phase of the building project consists of the actual construction work. It begins with the bidding of the job by building contractors and ends with the completion of the facility.

A. THE BIDDING AND CONTRACT PROCESSES

Local regulations will determine the precise schedule and sequence for awarding the project to a building contractor. Normally, this begins with the advertisement of the project in local newspapers, legal newspapers, and contractors' publications. The jurisdiction's engineering or public works department will have these arrangements well in hand. Contractors interested in the project review copies of the final working drawings and specifications, then submit sealed bids. Usually the lowest bidder who meets the necessary qualifications established by the jurisdiction is awarded the job. A contract is then signed and work gets under way. (This is described in greater detail in Chapter XI.)

VI. OCCUPATION

The last phase includes moving into the building and settling in the new environment.

A. OCCUPATION

Whether the construction phase lasts only a few months or spans a year or more, the library administrator will find the building project will continue to take substantial time and effort. Although there are fewer meetings with architects and project team members, a multitude of other activities and decisions take their place. While tentative decisions may have been made earlier, this is the period, usually, for finalizing specifications and acquiring furniture and equipment, planning for the move-in, and arranging for dedication ceremonies. It is also a time for intensifying staff familiarity with the new building and the arrangement of services, collections, and operations. A thorough in-service training program, especially as staff size grows, should be undertaken so that personnel can operate effectively in the new surroundings. As the project nears completion and opening day approaches, the library administrator should bring the project's public information program to a climax.

And then there's moving day itself. Depending upon the extent of the materials and personnel to be moved, the distance to be covered, and the preparations to be made for the move, this event may take from a day or two to several weeks. It is important to consider the pros and cons of various moving techniques and whether or not the library should try to remain open during this period. Should community groups be asked to help or should commercial movers do the job? How can the collections be moved with the least risk of damage and the best chance of finding their proper places on new shelving? Again, the answers lie in giving these and many related matters adequate attention before decisions have to be made under pressure. A well organized move-in plan can save costly errors as well as time and tempers.

B. MAINTENANCE

Whether remodeled, expanded, or a totally new structure, the library building project offers an opportunity to provide for improved maintenance. More often than not, the facilities required in a structure for its proper care are given little attention by library administrators. The amounts and nature of space to be allowed for custodial functions are problems that must be met in the building program. However, just as other members of the staff must become familiar with the new or remodeled building, so must the custodial force - whether a part-time employee or a staff of several.

The new or remodeled building is bound to contain materials

and finishes which will require different cleaning and maintenance procedures. Perhaps the most obvious of these is the use of carpet rather than hard floor surface materials. For most of the library, floor maintenance becomes a matter of vacuuming rather than scrubbing and buffing. Wall surfaces are often covered with vinyl materials or special paints and a whole range of new materials may be represented by desk and counter tops, chairs and occasional furniture. Windows are apt to be more prominent in a new building and large areas of glass will have to be cleaned. Cleaning and maintenance standards are apt to be higher in a new structure and this is likely to affect the amount of time allowed for maintenance along with the scheduling of maintenance workers and the quality of materials used in cleaning, etc.

C. SECURITY

Security of the new facility also needs attention at this point. Various areas will require different levels of security. During the architectural development and construction stage, decisions will have been made on the library's locking system. Offices and other internal areas may be secured by locks with individual keys. However, all of these, including entrances, may be opened by use of a single master key. Therefore, care must be taken in the distribution of keys to limit the number of master keys available. Combination locks may be used on some doors, or other locking devices selected for special purposes.

D. SETTLING IN

Finally, there is the settling in process which continues for the first several months while minor difficulties are resolved. These may include leaking roofs, faulty fixtures which break down under use, readjustment of furnishings to better suit actual working conditions, and other problems. At least a year will usually be required to attain a full balance of the air handling equipment, testing it against all four seasons. This involves numerous adjustments to the flow of air through the building and regulation of thermostats. While these minor frustrations can be irritating, they are nonetheless inevitable and the library administrator must be prepared to deal with each problem by understanding the role of the architect and contractor in providing remedial service to the building and equipment. Library staff are apt to be more tolerant, also, if forewarned that adjustments may be necessary for a year or more before the system can be fine tuned. (More information on what to expect when occupying the remodeled or new library building is provided in Chapter XII.)

VII. THE DOLLARS AND CENTS OF BUILDING PROJECTS

Funding is a major hurdle in almost every building project. Therefore, it is important that the library administrator understands the factors involved in project costs as well as the normal sources of reve-

nue. In most instances, money over and above the library's normal operational budget must be available from the outset of planning and continue through construction, furnishing, and occupation. The building project then continues to be reflected in the annual operating budget. Throughout the project, the library administrator must also be able to weigh the difference between first costs of construction against long-term lower operating costs requiring higher initial investment.

A. ESTIMATING PROJECT COSTS

To determine how much money will be needed for the project, various items must be considered, including land acquisition, professional fees for architects and engineers, consultants and others, construction, furniture and equipment, and occupation of the building. These costs relate more or less to the number of square feet involved in the project and require input from those who know current costs.

B. FUNDING SOURCES

The methods most frequently used to fund library projects include (1) referendum bond issues, (2) federal funds such as Federal Revenue Sharing, (3) capital improvement funds accumulated over a period of years, (4) pay-as-you go funding from current revenue, (5) public subscriptions, donations, and bequests, and (6) lease-purchase plans. The library administrator should understand the pros and cons of these various methods and help in determining which is most apt to be acceptable by the community. Where a clear-cut choice or preference is not evident, the services of a municipal finance consultant should be sought to assemble and analyze the alternatives. Such help is invaluable and relatively inexpensive. It saves a great deal of time and can avoid the possibility of bitter debate by only partially informed people. Unless money is received from gifts, bequests, or similar sources, library facility funding may require more persistance, understanding, and finesse than any other step; it may also take the most time. It is a problem which must be resolved fairly early in the project since the amount of money available for the building is a major determinant for planning and design

C. IMPLICATIONS FOR THE ANNUAL OPERATING BUDGET

The library administrator must determine the impact the library building project will have on the library's annual operating budget as early as possible. Usually this is best done after the design of the building has been approved and a furniture layout established which, in turn, permits detailed evaluation of any changes in staffing that may be required. The most obvious differences will occur in such areas as utilities, personnel, maintenance, and contracts for equipment repair and maintenance. However, the library administrator must not over-

look more subtle implications for collections and services. Increased usage almost always results from a new or remodeled library building. This, in turn, exerts more pressure on the collections expressed especially in heavier demand for new materials. Older materials may also be exposed to greater use and thereby increase collection maintenance costs. If collections and/or services have previously been limited by building inadequacies, the completion of the project will presumably permit the library to expand in these areas. The cost of office and library supplies will be affected by higher use, also. Insurance premiums are likely to rise and some monies will be needed for public information materials used to inform users about the services and collections available to them in the new or remodeled building. If new or additional meeting rooms have been provided, limited funds may be required for programming, scheduling and maintenance.

The library administrator should take great care in estimating operating costs for these and other budgetary items which will be affected by the building project. Once the totals are estimated, the projected costs should be evaluated against the jurisdiction's revenue resources to determine what affect it may have on future revenue requirements. A frank and honest appraisal of the building project's budgetary implications is essential to future success. (The financial side of building projects is discussed in Chapter V.)

VIII. SITE CONSIDERATIONS

Countless library building projects have run aground on the shoals of site selection, whether concerned with acquiring more property for an addition to the existing structure or a location for a new building. The library site represents a very real problem in many communities, in some it is used as a diversion by those who, for whatever reason, oppose the project. The facets of site selection are virtually limitless. Cost of land is almost always a major issue. Other common factors include convenience and safety of access and whether or not it is an appropriate use of the particular parcels in question.

If the project is concerned with remodeling and expanding an existing library, the site problem is obviously confined to adjacent properties. Are they available? Are they large enough? How much will they cost? Are they properly oriented toward the existing structure to be useful? Will their use create new problems of access and safety? Do they present hidden problems of geology, topography or buried objects? The feasibility of an expansion project may very well depend upon the responses to these and similar questions. Sometimes the land occupied by the library may be entirely adequate but is desired for other purposes which come to light when the library contemplates expansion.

If a new structure is to be constructed at a different location, the library administrator must understand the process of site selection

and compile relevant data. Library literature is filled with information on site selection but each community is left pretty much to itself in deciding which of the recognized criteria are most important for their library. Criteria must be objective and capable of evaluation. Sometimes a weighted scale will prove advantageous. Strong feelings are apt to be produced by the site selection process and every effort must be made to minimize disruptive haggling over emotional issues.

Other problems exist when the library happens to occupy a structure which the community, at least, views as an historic monument. This is apt to occur with increasing frequency as our library buildings age and the public becomes more engrossed with the preservation of older structures. Alternative uses should be determined and carefully reviewed before any sort of solution is suggested. Again, the expertise of specialists such as structural engineers and architects familiar with the architectural history of the area should be used in assembling factual data. Tagging the library building needlessly as an historic monument can sometimes be an almost insurmountable barrier to objective consideration of alternatives. (Chapter III contains additional information on site selection.)

IX. EVALUATION: ALPHA AND OMEGA

Just as the library project usually begins with an assessment of space needs, so should it culminate in an evaluation of the project's impact on library objectives and management. Specifically, how has the project affected library usage, community awareness and support, library management, the annual operating costs, and long term planning for future needs? Forthright responses to a series of questions will provide part of the information needed while additional facts will come from analysis of statistical data and the opinions of the project expressed by both the users and the staff. After six months or so, a thorough review session with the library board is in order. Similar evaluations should occur regularly to provide ample time for long range planning.

As part of the evaluation process, the library administrator will undoubtedly be confronted with various situations which have arisen during the period of occupancy. Assistance may be required from the architect, contractor, library consultant, and/or interior designer. Oftentimes a simple change or adjustment can eliminate a troublesome problem. Special consideration should be given innovative features which may require a longer shake-down period before they go as planned.

Pressure points requiring future attention will also emerge as part of this evaluation process. Some may relate to collection development and/or staffing, while others may indicate changes needed in seating or shelving, etc. If usage appears to be rising faster than anticipated, it may be necessary to modify the library's long range plans and schedule for a future addition or other alternatives

for acquiring more space. (The important process of evaluation is discussed further in Chapter XIII.)

X. SUMMARY

This chapter has considered the major subjects which are involved in most library building projects whether they concern remodeling, expansion or a new building. The six major phases have been designated as (1) the Conceptual Phase, (2) the Planning Phase, (3) Architectural Implementation and Development, (4) Interior Design and Furnishings, (5) Construction, and (6) Occupation. In addition, the relationship of other topics to library building projects has been established such as funding, plans analysis, and evaluation. References have been made to subsequent chapters where more detailed information will be found on these and other subjects. The reader may go directly to the topic of greatest urgency or interest or read the chapters in sequence to obtain a more comprehensive understanding of what is involved in library building projects.

CHAPTER II

NEEDS ASSESSMENT - THE STARTING POINT

Most library building projects do not begin spontaneously. They are usually the product of prolonged need and require a specific and definite push to overcome inertia. Governing officials and the public often require convincing and compelling evidence before the cry for action is heeded. Librarians and trustees who stand quietly hoping that someone will recognize their plight normally have a long period of waiting ahead. Library administrators have a special responsibility to analyze and call attention to the need for proper facilities to house the collections, staff, and services which are the property of the public. Sometimes this may mean turning the spotlight onto adverse conditions with which staff and users must contend and/or structural or mechanical deficiencies of some magnitude.

The needs assessment process compels the library administrator and the Board to determine the true shortcomings of the library building as they relate to (1) space limitations, and (2) building deficiencies. This is a somewhat tedious and sometimes painful task since it may involve exposure of limitations which have previously been overlooked or suppressed. For this reason, it may be helpful to have outside, impartial assistance from someone acquainted with the process. There may be some comfort in recalling that current building deficiencies and limitations did not occur overnight. Space deficiencies, for example, are usually the result of long-term collection growth, and/or increases in staff to serve increasing numbers of people who, in turn, require more user accommodations. Building deficiencies are also the result of the passing of years plus the fact that the building, in all likelihood, was not designed to meet the expanded requirements of today's library service. In addition, public buildings, including libraries, must now meet the barrier free access requirements for the physically handicapped - still another new scale for measuring the library building's adequacy.

In the following pages, needs assessment is pursued along two paths: (1) space deficiencies, and (2) flaws in the physical plant. The first concerns the requirement of space necessary for the library to respond adequately to user demand while the second confronts the deficiencies of the building itself. Both require careful examination, thorough documentation, and competent presentation to officials and the public. This process may be complicated in some communities by general public apathy which has long taken the library for granted. Many times serious deficiencies go unrecognized no matter how apparent they seem to the outsider. In some situations, the librarian and library Board must brave possible embarrassment to expose deficiencies which they or others before them may have ignored or covered up. The library building may also be the victim of makeshift repairs or long

term neglect - a trend difficult to reverse. The librarian and library Board must, therefore, be fully prepared with all available facts before announcing the results of a needs assessment study.

I. DETERMINING THE PRESENT SPACE DEFICIENCY

When shelves are overflowing, user accommodations abandoned for more book stacks, and staff work space crowded into minute corners of public areas, it would seem obvious that the library is suffering from lack of space. Yet, it is both amazing and disconcerting to realize how many libraries continue to operate in just such a manner year after year. Somehow or other, it seems, the public expects you will always be able to find more space within the same cramped and overstuffed confines. In fact, many who may curtail or discontinue their use of the library because they find the physical conditions unpleasant, never really identify their reaction with the fact that the real problem is the library building's space deficiency. Therefore, it usually falls upon the library administrator and library board to determine the actual space requirements and to voice the need in no uncertain terms.

The first step is to estimate the amount of space which should be available for what the library already supplies the community in terms of collections, services, user accommodations, and staff. This requires a simple inventory and a few quick calculations based on standard space allocations. For example:

A. THE BOOK COLLECTION

For the purposes of estimating optimal shelving space requirements, public libraries usually use the figure of 10 volumes per square foot of floor area. This allows for considerable collection growth since working capacity is considered to be about 21 volumes per square foot for three foot wide double faced sections with seven shelves per side. Except for reference volumes, bound periodicals, art books, and oversized volumes, a shelf will normally hold from seven to eight books per linear foot. If books are shelved too densely, circulation is adversely affected and the cost of reshelving volumes returned from circulation and in-library use increases significantly because of the frequent need to shift books from shelf to shelf to find space. The 10 volumes per square foot figure permits maximum flexibility and minimizes the number of books which must be placed on difficult-to-reach top and bottom shelves while leaving adequate working space on each shelf for several years.

To arrive at the number of square feet required for the collections, take the total number of volumes, subtract the average number in circulation, and divide by 10. A hypothetical case is shown in Table II-1.

TABLE II-1

CALCULATIONS FOR SPACE REQUIREMENTS FOR CURRENT COLLECTIONS

Part of Current Collection	Total No. Vols.	Annual Circulation	Pro Rata Circulation per Circulation Period*	No. Vols Remaining to be Shelved	No. Sq. Ft. Required @ 10 Vols per Sq. Ft.
ADULT					
Non Fiction	35,172	67,460	5,621	29,551	2,955
Fiction	23,448	49,615	4,134	19,314	1,931
CHILDREN					
Collections	12,760	39,240	3,270	9,490	949
TOTALS	71,380	156,315	13,025	58,355	5,835

*A one-month circulation period was assumed in this example; therefore, the total circulation was divided by 12; if the circulation period is three weeks, the divisor would be 17.3 or 26 for a two-week circulation period.

Given the above example, then, the total number of net square feet required for shelving, based upon 10 volumes per square foot, would be 5,835. By measuring the space actually given to collections, the space deficiency can be easily calculated.

B. SEATING

The space required for seating is rather well established at 25 square feet per person seated at a table, and 40 square feet per lounge or casual chair. So, to determine the amount of space your present seating should occupy, count the number of chairs you have at tables (including carrels) and multiply the total by 25; do the same for casual seating and multiply by 40. The sum of these two figures provides an approximation of the space required for adequately seating the number of people currently provided for. For instance:

32 chairs at tables = 32 x 25 sq. ft. = 800 sq. ft.

5 lounge chairs = 5 x 40 sq. ft. = 200 sq. ft.

Total space required for present seating = 1,000 sq. ft.

C. SERVICE DESKS

The amount of space required for service desks will depend upon location and configuration as well as the number of staff employed at the desk at any one time. The space occupied by the desk or counter is only a part of the total which must also include area for staff operations on one side and the user on the other. For each staffed station, then, assume a minimum of 150 square feet. For instance, if your circulation desk is staffed at peak periods by two people, the circulation desk and its surrounding work and traffic areas will probably require about 300 square feet; if three staff members are required from time to time, then the square footage occupied could rise to 450 square feet. Therefore, to approximate the amount of space required for your current operations, determine the maximum number of staff involved at any one time and multiply by the factor of 150 square feet. For instance:

Circulation Desk: Maximum number of staff at the desk at peak periods - 2 x 150 sq. ft. = 300 sq. ft. for circulation desk

Public Service Desk: 1 staff member - 1 x 150 sq. ft. = 150 sq. ft.

TOTAL ---------- 450 sq. ft. for service desks

D. STAFF WORK AREAS

Work space requirements for staff will average about 125 square feet per staff member. Libraries large enough for departmentalization may wish to refine this figure by allowing 150 square feet for professional staff and 100 for clerical and non-professional. (Remember, these are only estimated figures.) Almost immediately the question arises as to who will be included as staff; are these full time personnel only? The answer depends upon the duties assigned part time personnel and the number of hours they work per week. If, for instance, a part time employee works an average of 20 hours per week to process new books and do routine mending, then a separate work position is required. However, if a person is hired 20 hours a week to work at the circulation desk and help out with registration and/or overdues as needed, a separate work station may not be necessary. This is a matter which must be left to the judgment of the administrator, keeping in mind that efficiency is usually increased where staff members are allocated separate desks. In any case, for the purposes of illustration assume:

Full time staff = 5

Part time (exclusive of pages and custodians = ½)

Total staff = 5½ x 125 = 688 square feet

By totaling the spaces thus estimated, we can now arrive at an approximation of the total amount of NET square footage required to adequately house the library's present collections, seating, and staff.

In combining the space estimates given above, we arrive at the following:

TABLE II-2

SPACE NEEDS ESTIMATE

Collections	5,835 sq. ft.
Seating	1,000 sq. ft.
Service desks	450 sq. ft.
Staff Work Areas	688 sq. ft.
Net Square Feet	7,973

E. DEFINING NET SQUARE FEET

At this point it may be helpful to distinguish between the terms net square feet and gross square feet. Net square footage, sometimes referred to as assignable space, is the amount of usable space. This excludes space required for such things as walls, partitions, stairwells, and mechanical equipment. Unless included as a specific area in the list of assignable spaces, restrooms, custodian's closets, and similar areas, may also be considered a part of the non-assignable space. For purposes of estimating, it can be assumed that from 20% to 30% of the building will be classed as gross or non-assignable space. In other words, in the example above, the 7,937 net square feet represents only 70% to 80% of the total square foot requirement. The total or gross square footage would likely be between 9,921 and 11,338 square feet.

F. SPECIAL SPACE REQUIREMENTS.

In addition to the foregoing types of space, there is usually a need to accommodate special functions such as meeting rooms, story hour rooms, and other types of public services provided the community by the library. For multipurpose meeting rooms where row seating will usually be called for, the space required can be estimated at eight to 10 square feet per person to be seated. A meeting room for 50 will, therefore, require from 400 to 500 square feet; conference rooms, useful for board meetings and discussion groups where people are to be seated around a table, should be estimated at 25 to 30 square feet per person. A conference room for 12, for instance, would require about 300 to 360 square feet.

Still more space will be necessary if the library operates a bookmobile, van, or other type of vehicle. Since the amount of room required for extension activities varies so much from one library to the next, the best space estimate can be derived by calculating space requirements based on the above standards for collections and staff, plus any extra room needed for housing vehicles and/or other special equipment. A typical van type truck, for instance, may require a garage of 375 square feet plus an additional 100 - 150 square feet of loading dock space - a total of 475 - 525 square feet. Actual dimensions should relate to the measurement of the vehicle to be garaged.

G. SUMMARY OF CURRENT SPACE NEEDS

For the purpose of illustration, let us assume that the following table represents a fair comparison of the actual room available as determined by measurement and the amount of room required according to space allocation standards to adequately house existing collections, staff, users, and operations. In addition, assume that one small area is used as a makeshift meeting room with programs attracting as many as 50 people. Given these figures, the following table could be compiled.

TABLE II-3

ESTIMATE OF ACTUAL NET SQUARE FOOT SPACE NEEDS
VS. SPACE CURRENTLY AVAILABLE

ITEM	NUMBER	EXISTING SPACE	ESTIMATED SPACE REQUIRED
Volumes to be shelved	58,355 Vols. @ 10 Vols. per sq. ft.	3,896 sq. ft.	5,835 net sq. ft.
Seating for Users	32 seats at @ 25	500 sq. ft.	800 net sq. ft.
	5 seats - lounge type	140 sq. ft.	200 net sq. ft.
Service Desks	Circulation (2 staff)	210 sq. ft.	300 net sq. ft.
	Reference	80 sq. ft.	150 net sq. ft.
Staff Work Areas	5½ full time	280 sq. ft.	688 net sq. ft.
Multipurpose Room	50 seats	325 sq. ft.	500 net sq. ft.
TOTAL		5,431 sq. ft.	8,473 net sq. ft.

By this simple table is is quickly seen that the amount of space available in the present building is only a little more than half the number of net square feet which might be considered adequate for (1) materials already in the collection, (2) staff currently employed, (3) seating accommodations for those now using the library, etc.

Such figures are usually useful as a starting point to prove inadequacy of presently available space. The totals may also be indicative of whether or not the best solution lies in the direction of an addition to the present structure or whether the requirements are so overwhelming as to require more drastic action. The information for such a table as II-3 can be put together relatively easily and needs no particular expertise or outside assistance.

Usually, however, the problem of space needs cannot stop here. After all, it is the user's needs which should ultimately determine the quantity of materials, types of service, numbers of staff, and special requirements to be supplied. Based on a profile of the community, the user's potential library needs provide the soundest possible method of estimating future square footage requirements. This process is described below.

II. THE COMMUNITY NEED

It is assumed that a library building project, under normal conditions, should be based upon the space needed for the library to accomplish its objectives in the community for at least the next 20 years. Therefore, it is necessary to arrive at some general estimates of space requirements founded on projections of community growth and the development of library service in accordance with the library's objectives. This translation of future community needs into square footage for the library's collections, services, users, and staff requires the library administrator to develop a quantity of data and to apply professional judgment. The library board can provide considerable assistance in this process, both as a source of information and as a sounding board for evaluating results.

To establish present community need and predict future requirements, the library administrator must understand the community. Ruth Warncke[1] has provided the library field with excellent discourses on techniques for community analysis. Using these methods and others which may be helpful, the library administrator whould conduct a valid community study which interprets population data in terms of potential library usage.

The first step is to obtain reliable population data and pro-

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[1]Ruth Warncke, *Analyzing your Community: Basis for Building Library Service*. Illinois State Library and Illinois Library Association, 1974.

jections. Usually, these figures can be gathered from local or regional planning bodies which are always happy to have their work utilized in planning public facilities. As an example, let us look at another hypothetical community situation. Current population figures for City B have been established by a recent special census at 21,575, and the city planning office has estimated that the population will rise at an average rate of 1% per year for the next two decades, giving the city a population of about 23,600 in 10 years and nearly 26,100 in 20 years, or a net increase of some 4,500, representing a growth of more than 20%.

Further work by the library staff turns up the fact that the educational level is gradually rising. Due to the proximity of a university branch and a technical institute, the highest grade completed by the average adult is expected to move from the present 11.8 to 12.3 in 10 years, with a further increase to 12.8 by the end of the second decade. With continued expansion of the community's manufacturing base it is also assumed that the numbers of people engaged in the professional, managerial, and technical fields will grow, while unskilled labor will continue to decline.

Considering all of these factors, the library administrator must arrive at a concept of the future population in terms of its complexity and probable demands on all educational and informational services provided by the community. Using the population projection figures and realizing that a good library will have to stand ready to provide superior collections and services, the library administrator is now ready to make several calculations pertinent to the amount of room that will be required for library services during the next two decades.

(While it is possible to use the timeworn rule of thumb of .55 net square feet of library building per capita, this formula is far from a precise tool and totally ignores local requirements. Therefore, it is better to approach the problem from the standpoint of the library's projected requirements in basic areas.)

A. COLLECTIONS

The minimum requirement for book collections applicable to community libraries as stated in *Wisconsin Public Library Standards*[2] is "at least two volumes per person served or 30,000, whichever is greater."

In preparing the projection of collection size, as shown in Table II-4, the library administrator would discover that the net projected increase in collection size over the 20 year period would amount to only 8,980 volumes. However, using the standard

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[2]*Wisconsin Public Library System Standards*. Division for Library Services, Department of Public Instruction, Madison, Wisconsin, p. 32.

annual acquisition rate of one volume for every six persons in the community, the library will have purchased something like 80,000 volumes during the two decades. To keep the total number of volumes within the standard of two volumes per capita will mean discarding nearly nine out of every 10 books purchased. Such a high rate of discard may seem impossible. Therefore, the total collection growth is apt to be somewhat greater than the standard might predict.

TABLE II-4

PROJECTION OF COLLECTION SIZE

YEAR	Population	Total No. Vols. in Collection*	No. Vols. in Circulation (Assume 11%)	Total No. Vols. to be Shelved	Sq. Ft. @10 Volumes Per Sq. Ft.
Current	21,575	43,780	4,816	38,964	3,896
10 Years Later	23,596	47,192	5,191	42,001	4,200
20 Years Later	26,065	52,130	5,734	46,396	4,640

*Calculated at the standard of 2 volumes per capita[3]

To explore this further, assume that in this particular library, the annual rate of acquisition remains fairly constant at one new volume for every six people in the community, but the rate of discard amounts to only six volumes for every 10 acquired. The net gain would then amount to about 40% of the 80,000 or so volumes added to the collections during the 20 year period - or 32,000 volumes. Adding the 32,000 volumes to the current 43,780 volumes would indicate a total collection of 75,780 volumes to be housed rather than 52,130. Using the 10 volumes per square foot ratio would then show a need for 7,578 square feet of space for collections. In smaller or more static communities, collection growth might be somewhat less; in a larger or more complex community the percentage of annual acquisitions which end up as discards would be even smaller and total collection growth greater.

B. SEATING

Unfortunately, there is no precise way in which to measure the amount of seating which should be supplied by a public library. The American Library Association's *Interim Standards for*

[3] *Ibid*, p. 32.

Small Public Libraries[4] indicates that for a community in the population range of 10,000 to 24,999, the library should provide 40 seats, plus four seats per 1,000 for population in excess of 10,000. This standard allows an average of 30 square feet per reader whether seated at a table, carrel, or in a lounge chair. By comparison, Joseph Wheeler,[5] after 30 years of observation, determined that public libraries serving communities of less than 10,000 population should provide 10 seats per 1,000 and those in the 10,000 to 35,000 category should allow for five seats per 1,000. Applying these two formulas, the following figures could be arrived at for our example library.

TABLE II-5

ESTIMATING SEATING REQUIREMENTS

Population	ALA Formula	Wheeler Formula
21,575	40 + 46 = 86	(5 x 21M) = 105
23,596	40 + 54 = 94	(5 x 23M) = 115
26,065	40 + 64 = 104	(5 x 26M) = 130

Against this background, the library administrator must project the local situation: Do library users tend to stay for longer or shorter periods of time? Are there heavy peak loads at which time every seat is taken and many people are disappointed? There has been a growing concern that public libraries may be supplying more seating in new buildings than may really be required. On the other hand, it may not be the total amount of seating that exceeds the need, but the kind of seating provided. For instance, seating should include a substantial number of carrels along with special accommodations for the use of audio visual materials. Besides, a new or recently remodeled library building usually attracts readers who now shun the library. In any case, these are some of the factors which the library administrator must consider in arriving at a projected number of seats. A reading of Robert Sommer's book, *Personal Space*,[6] will provide some illuminating insights on seating habits, especially in libraries.

C. SERVICE DESKS

Looking to the future, the library administrator must determine the number of service desks which will be required to serve

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[4] *Interim Standards for Small Public Libraries*. American Library Association, Chicago, 1962.

[5] Joseph Wheeler, *The American Public Library Building*. Scribners, New York, 1961.

[6] Robert Sommers, *Personal Space*, Prentice Hall, Inc., 1969.

the public. The total number will include full time desks such as circulation, as well as other service desks which may be staffed only at certain periods of the day. For a population of this size, it might be reasonably expected that the library will have a circulation desk, a reference or information desk, and a desk in the children's area. One or more additional desks might be required on a part time basis to give special services. Each service desk, whether staffed on a part time or full time basis, will require approximately 150 square feet.

D. STAFF WORK AREAS

Since the amount of space devoted to staff work areas is dependent upon the number of staff employed, the library administrator must arrive at a projected personnel complement for the future before estimating square footage for work rooms. The *Wisconsin Public Library System Standards*[7] indicate "no less than one full time staff member (or equivalent) per each 2,000 people in the system area." Applying this standard would result in the following:

TABLE II-6

ESTIMATING SPACE FOR LIBRARY PERSONNEL

Population	No. Staff	Sq. Ft. @125 sq. ft.
21,575	10-3/4	1,344
23,596	11-3/4	1,469
26,065	13	1,625

E. SPECIAL SPACE REQUIREMENTS

Visualizing an active community program, the library administrator may determine that the library must offer some additional public facilities. These might include a meeting place for discussion groups of up to 16 people, and a multi-purpose room which would accommodate 100 for film showings and/or lectures. The space for these facilities is estimated in Table II-7.

[7] *Wisconsin Public Library System Standards*. Op. Cit., p. 40.

TABLE II-7

ESTIMATING SPACE FOR SPECIAL FUNCTIONS AND SERVICES

Conference Room for 16 seated at table (@25 sq. ft. per person) ----------	400
Multipurpose Room for 100 seated in rows for viewing films, lextures, etc. (@10 sq. ft.) ----------	1,000
Total for Special Spaces ----------	1,400

F. OTHER SPACE REQUIREMENTS

The foregoing space estimates consider only basic requirements. In most instances, space will be required for other materials, services, and accommodations such as the following:

1. AUDIO VISUAL

The amount of space required for audio visual materials and services will depend upon the extent and nature of the collection and service. Space requirements of the more basic items are indicated in Table II-8.

TABLE II-8

SPACE REQUIREMENTS FOR AUDIO VISUAL MATERIALS AND EQUIPMENT

Disc Recordings in browsing units = 12 - 17 per sq. ft.

A browsing unit holding 500 discs with 3' aisle on three sides - 50 sq. ft.

A browsing unit holding 500 discs with 1½' aisle on either end and 3' aisle in front = 35 sq. ft.

Audio Visual carrels (single seat) = 30 sq. ft.

Film strips, audio cassettes, etc., in modular AV storage unit = 15 sq. ft. per unit

16mm film storage shelving - 100 films of assorted lengths (400' - 2,000') per section = 18 sq. ft.

Film rewind (hand operated) - including operator, two rewind machines, and splicer but not including adjacent work area - 20 sq. ft.

Electronic film inspection machine with operator but not including adjacent work space = 30 sq. ft.

In addition to the above, it will be necessary to allow for storage space for such items as projectors, projection tables,

portable projection screens, etc. Using this information, the space required for audio visual materials and equipment held by the library can be estimated in general terms.

2. MISCELLANEOUS ITEMS OF EQUIPMENT AND FURNISHINGS

While their space requirements are modest, most libraries will need to allow room for certain other pieces of furniture and equipment. For instance, free standing atlas and dictionary stands with walking room on all sides will require about 32 square feet each. Index tables, measuring 4' x 9', allowing up to three users per side, take up 140 square feet when aisle space is added. Typing carrels can be reduced in size but should occupy about 35 square feet for maximum ease in use. With no allowance for side aisles, letter files require 8½ square feet each, legal files 10 square feet, and jumbo (picture) files 12½ square feet; these measurements include space for the drawer to be fully extended with a user in front of the file. A 60 or 70 drawer catalog with a 3' aisle on two sides and a minimum of 3'6" in front will occupy 45 square feet. Microfilm readers on individual tables need approximately 30 square feet, while microform cabinets, allowing space for drawer extension and user, will take up another 15 square feet per file. A plan file used for topographic maps and other large flat media, measuring 45" wide by 36" deep will require about 35 square feet when the drawer is fully extended and a user is browsing from the front - no space has been allowed in this total for aisles on either side or back of the file case. These measurements cover the most common items of library furnishings and equipment.

3. STAFF AREAS

Additional space will be needed for staff work areas and a staff lounge. Work areas can be approximated at 125 - 150 square feet per person while office space for the library administrator will occupy 200 square feet or more depending upon how much space, if any, is used for a conference table. The staff lounge should include a kitchen using a built-in refrigerator-stove-sink and cupboard unit, some lounge furniture, and table seating for at least one-half of the staff - but not less than seating for four. Staff restroom facilities, not included here, should be separate from those used by the public for reasons of convenience and safety.

4. STORAGE

Every library needs some storage space for infrequently used materials, gift books awaiting evaluation, periodical

TABLE II-9

SUMMARY OF SPACE NEEDS FOR HYPOTHETICAL LIBRARY

ITEM	CURRENT (Population 21,575) NUMBER	NET SQ. FT.	TEN YEARS HENCE (Population 23,596) NUMBER	NET SQ. FT.	TWENTY YEARS HENCE (Population 26,065) NUMBER	NET SQ. FT.
COLLECTIONS:						
Books: (On shelf volumes)	38,964	3,896	52,259	5,225	67,153	6,705
Disc Recordings	1,000	100	1,500	150	2,000	200
Misc. A.V. in Storage Cabinet	1 unit	15	2 units	30	3 units	45
SEATING:						
ALA Formula @30 sq. ft. per person	86	2,580	94	2,820	105	3,150
(Wheeler Formula)	*105*	*3,150*	*115*	*3,450*	*130*	*3,900*
SERVICE DESKS:						
Circulation (2 staff)		300		300		300
Reference		150		150		150
Children		150		150		150
STAFF OFFICES & WORK ROOMS:						
Library Admin. Office	1	250	1	250	1	250
Staff Work Room	10½ FTE*	1,313	11¼ FTE*	1,406	13	1,625

MISCELLANEOUS						
Atlas Stand	1	32	1	32		32
Card Catalog	3	135	4	180	3	180
Vertical Files	4	34	6	51	6	51
Microform Reader	1	30	1	30	2	60
Microform File	1	15	1	15	2	30
Picture File	2	25	3	38	4	50
Index Table	1	140	1	140	2	280
Map File	-	---	-	---	1	35
Typing Carrel	1	35	2	70	2	70
OTHER SPACE:						
Meeting Rooms		1,400		1,400		1,400
Storage		1,000		1,200		1,500
TOTAL (Using ALA Seating)		11,600		13,637		16,263
(Or Using Wheeler Seating Formula)		*12,170*		*14,267*		*17,013*

*Full Time Equivalent

and newspaper backfiles, and oddments of displays, furnishings, etc., which require temporary or seasonal storage. Up to 10% of the library's net square footage may be used for this purpose providing it does not occupy prime space.

G. NET SPACE NEEDS SUMMARY

Table II-9 summarizes the space needs of our hypothetical library and projects them for the next two decades. A similar table can be helpful to any library involved in assessing its space requirements.

H. GROSS SQUARE FOOTAGE SPACE NEEDS

Since the square footage estimates in Table II-9 are in terms of NET square footage, it is necessary to make one further calculation to turn this figure into total building area. Because restrooms and custodial areas have not been included in the foregoing figures, it is best to assume that the net square footage as shown will represent about 70% of the total building area. Therefore, using the net square footage arrived at with the Wheeler Seating Formula, we find that the total square footage in the building will increase.

TABLE II-10

CONVERTING NET SQUARE FOOTAGE TO GROSS OR TOTAL SQUARE FOOTAGE*

Population	Net Sq. Ft.= 70% of Total	Add for Gross*	Total Sq. Ft. Required
21,575	11,600	4,971	16,571
23,596	13,637	5,844	19,481
26,065	16,263	6,969	23,232

*See also discussion under II. E. above

The library administrator is now prepared to state that a library building, adequate in size for today's population, should contain about 16,500 gross square feet, and that this must be increased to nearly 20,000 square feet 10 years hence, while an adequate library 20 years from now will require a structure of 23,000 square feet. Such figures begin to set the parameters of facility need and provide a basis for comparison with existing space.

III. CONDITION OF THE PRESENT PHYSICAL PLANT

So far, needs assessment has only considered estimating space requirements based on present and future community needs and on existing library collections, services, and staff. A second essential approach to needs assessment concerns the condition of the present physical

plant. As noted at the beginning of this chapter, occasionally the flaws in a building may be sufficiently obvious to compel action; however, all too frequently they are given little thought. Library users seem nearly oblivious to such problems, and staff members become accustomed to working within a particular environment and soon take such deficiencies for granted - just as they do crowded conditions. Besides, many buildings may appear to be sound structures, though concealing serious defects. Because the safety of the public, the staff, and the collections is at stake, the library administrator must be fully aware of any adverse conditions in the library structure.

The library administrator should understand that the analysis of a structure's safety calls for expertise in various engineering skills. It is recommended that the assessment of the physical plant be made in two steps: (1) a preliminary survey by the library administrator and Board, followed by (2) a thorough study by qualified engineers.

A. THE PRELIMINARY SURVEY

The library administrator and/or Board should make a careful inspection of the library building, focusing attention on these major areas: (1) structure, (2) electrical, (3) mechanical, and (4) plumbing. A part of this work will be done in the office by noting the nature, frequency, and extent of building repair and maintenance problems in these categories. Does the roof need frequent repair? How often must an electrician be called in to add electrical outlets or repair wiring? Is a plumber needed very often and, if so, for what? Does the heating and ventilating system require frequent service calls? Each library administrator will, of course, make up his or her own list.

Once this office work is done, a thorough inspection of the building should be made with eyes and ears tuned to whatever deficiencies may be found. Listed below are some of the questions which may be kept in mind on such a tour of the premises:

1. STRUCTURE.

   a. Do the physically handicapped have barrier free access to the library, its collections, and services?

   b. Does the floor feel solid underfoot when a loaded book truck is moved across it?

   c. Is there any apparent deflection in the floor?

   d. Do the foundation and/or wall surfaces show signs of serious cracking?

   e. What is the condition of the roof?

f. Do ceiling beams appear bowed?

g. What is the condition of interior walls?

h. Are there signs of severe moisture leakage in areas above and below grade?

i. Is there evidence of periodic flooding in any part of the building?

j. What is the condition of grout in exposed masonry?

k. Do outside walks and steps remain flat and unbroken?

l. Do interior stairs feel firm underfoot and are the handrails securely fastened?

m. Is there any sign of wood rot or other deterioration in thresholds?

n. Do windows close properly without undue pressure?

o. Do doors fit squarely into their frames?

p. Are there signs of doors scraping the floor?

q. Other

2. ELECTRICAL

a. Is the lighting adequate for the tasks being performed in all parts of the building?

b. Are the electric outlets adequate in number, load capacity, and location for both library and office equipment in use today and projected for the next 10 years? 20 years?

c. When was the building's electrical system last renovated?

d. Are utility bills increasing significantly?

e. How often do circuit breakers have to be reset or fuses replaced in the switch panels?

f. Has it ever been necessary to run additional wiring to accommodate new equipment?

g. Do the lights flicker or dim?

h. Does the building have any past history of difficulty with its electrical system?

i. Is there room on the switch panel for additional circuits?

j. Other

3. MECHANICAL

a. Does the present heating and ventilating equipment keep the building at satisfactory levels of temperature in all seasons?

b. Are there areas in the library which provoke public and/or staff complaints for being too warm, too cold or drafty?

c. Is there adequate insulation in the ceilings?

d. How old is the present heating and ventilating equipment?

e. What does the library spend annually to maintain the mechanical equipment?

f. Have there been difficulties in securing adequate fuel for the heating system during the last several years?

g. Is excessive noise transmitted by the mechanical equipment?

h. Are any special problems associated with the servicing of the mechanical equipment in its present location?

i. Other

4. PLUMBING

a. Is the number of toilet fixtures adequate for the traffic they bear?

b. Does the number of fixtures meet the standards for the physically handicapped?

c. Is there any evidence of leaking pipes or fixtures in floors, walls and/or ceilings?

d. Are lavatories, toilets and sinks in good condition with few, if any, chips or breaks in the porcelain surfaces?

e. Is the library protected against flooding by floor drains in the restrooms?

f. How often each year is it necessary to have the services of a plumber?

g. Has the library ever undergone extensive replacement or renovation of plumbing and fixtures? If so, when?

h. Are drains chronically sluggish?

i. Does the water supply and pressure entering the building seem adequate?

j. Does the library seem to suffer from frozen water pipes more often than other structures in the area?

k. Is there adequate drainage from the roof and the grounds during periods of thaw?

l. Other

The findings resulting from this and subsequent parts of the examination of the physical plant should be compiled for review with local building officials and as a basic resource for engineers, architects, and/or other professionals who will conduct independent investigations. Precautions should be taken to avoid releasing this information until facts are fully confirmed.

B. REQUIREMENTS FOR THE PHYSICALLY HANDICAPPED

In recent years the problems associated with the use of public buildings by the physically handicapped have received increasing attention. While we often tend to think of the physically handicapped as those who must enploy wheel chairs or other devices to get around, there are many others in our communities who have less apparent physical impairments which inhibit their use of buildings designed around the capacities of the fully functional human being. There are significant numbers of people who suffer from heart ailments. arthritis, and other crippling diseases. The visually handicapped and hearing impaired form still other groups with special needs and problems. Sometimes a person's mobility is restricted for only a period of time by accidents, stroke, or some other temporary condition. Yet, it is people in just such circumstances who may need and make the greatest use of a public library - if they can manage to conquer the physical barriers many buildings impose.

Rather than go through a long recital of common shortcomings such as staircases without alternate ramps or elevators, restrooms with doors too small for entry, drinking fountains and public telephones too high to reach, and signs placed where they cannot be read, it would seem more pratical to call attention to other

sources which should receive your consideration. At the national level, the requirements are referred to in the Code of Federal Regulations, Article 41, Chapter 101, Sub-part 17.7. In Wisconsin the subject is covered explicitly in Section 52.04 of the *Wisconsin Administrative Code, Industry, Labor and Human Relations,* under the heading, "Requirements for Barrier-free Environments."[8] The details cover several pages and apply both to new construction and buildings which undergo more than a minimal amount of renovation and/or expansion. Various provisions will also be found in the *Uniform Building Code*[9] and the library administrator can rest assured that any other building code operative in his or her governmental jurisdiction is apt to contain fairly stringent regulations. Further help will be found in a recent British publication, *Designing for the Disabled,* by Selwyn Goldsmith[10] which is filled with suggestions while calling attention to many unsuspected problem areas. Additional new titles on this subject will be forthcoming in the very near future.

Before analyzing a building to determine what barriers may exist for the physically handicapped, awareness can be stimulated by viewing such films as *The Surest Test*[11] or the video tape, *Barrier Free Access,* which is available through the Bureau for Reference and Loan Services, Division for Library Services. Excellent publications continue to appear on this subject, including the April 1978 issue of *Progressive Architecture* magazine which is devoted to barrier-free design. As you survey your building with the physically handicapped in mind, some of the questions you will want to answer include:

1. Are the walks and ramps at least four feet wide?

2. Do all ramps have a slope of not more than one foot rise in 12 feet outside?

3. Do all ramps have a handrail 30 to 32 inches high?

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[8]Department of Industry, Labor and Human Relations. *Wisconsin Administrative Code: Building and Heating, Ventilating and Air Conditioning Code.* Madison, 1978. p. 82.

[9]*Uniform Building Code,* International Conference of Building Officials, Whittier, California, 1978.

[10]Selwyn Goldsmith, *Designing for the Disabled.* (3rd ed.) London, RIBA Publications Limited, 1976.

[11]*The Surest Test.* 16mm film available from Easter Seal Sunday for Crippled Children and Adults, Washington. Seattle, Washington.

4. If the outside ramp has a 1:12 slope and is more than 30 feet long, are there level platforms at least five feet long at 30-foot intervals and where the ramp turns?

5. Is there a level platform at least five feet long at the top and bottom of each ramp?

6. Is the entrance door at least 32 inches wide?

7. Are all interior passageway doors at least 32 inches wide?

8. Do any door thresholds extend more than 1/2 inch above the finished floor or carpeting?

9. Are public toilet facilities accessible?

10. Do public toilet rooms and toilet compartments provide for ease of access, usability, and uninterrupted mobility?

11. Do toilet compartments with a front entrance have dimensions of not less than 36 inches by 72 inches?

12. Do the toilet compartment doors swing out with sufficient clearance to open at least 95°?

13. Are grab bars, capable of supporting 250 pounds each, properly installed on either side of the toilet compartments?

14. Are the seats of toilets mounted 16-20 inches above the floor?

15. Is at least one lavatory mounted to provide 29 inches of clear space at the bottom of the apron with a maximum rim height of 34 inches?

16. Are at least one mirror and towel dispenser or hand drier mounted at not more than 40 inches above the floor?

17. Are international symbols used to identify accessible entrances, toilet facilities, drinking fountains, telephones, and parking spaces?

18. Have all necessary 90°, 180° and 360°, and S-turns been designed to provide ease of access, usability, and uninterrupted mobility?

19. Are water fountains and public telephones mounted at a height convenient for functionally limited users?

20. Are elevator controls accessible to a person in a wheel chair?

21. Are controls marked in Braille and/or raised letters?

22. Are card catalogs accessible from a wheel chair, with top drawers no more than 45 inches from the floor and not less than six inches from the floor?

23. Are bookstack aisles not less than three feet wide?

24. Can a person in a wheel chair place books on the check-out counter and see the library staff working there?

These and many other similar questions will be raised in the course of ascertaining whether or not your library building is adequately prepared for the handicapped person. If you can't recall many handicapped people using your library building, there may be some good reasons.

C. ENERGY CONSERVATION

With rising costs and increasing scarcity of fuel, energy conservation becomes a major topic for review. While the librarian and Board may not be qualified to assess the efficiency of the library's heatint plant, where are other aspects of energy conservation which deserve attention? A growing literature on energy conservation will provide many guidelines and checklists.[12] A few of the more obvious and universal questions are listed below.

1. Are windows and doors fully insulated?

2. Are ducts leading from mechanical equipment to supply registers properly insulated?

3. Is there adequate insulation between the roof and ceiling and in exterior walls?

4. Could additional landscaping protect window areas from heat gain during the summer?

5. Can the present light fixtures be replaced by more efficient sources such as the high intensity discharge (HID) types now on the market?

6. Are there large areas of single-paned glass which should be replaced by energy-saving double-paned glass?

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[12] Energy conservation requirements are stated in the *Wisconsin Administrative Code*, (1978) Section Ind. 51.02.

7. Are hot water pipes properly insulated?

8. Could greater efficiency be attained by replacing old furnaces and air handling equipment?

9. Do floor coverings provide adequate insulation at floor level?

10. Is protective screening needed at the entrance to eliminate drafts and loss of air from the interior of the building?

11. Can alterations be made to present heating system to increase efficiency?

12. Can heating efficiency be improved through relocation or better use of thermostat controls?

Walking through the library building with a representative of a utility company or an engineer familiar with heating and ventilating systems can be a most productive experience. This exercise will help sort out the easily remediable dificiencies from those which may be difficult and/or prohibitively expensive.

D. INITIAL REVIEW

When the findings of this first step in physical plant analysis have been accumulated, they should be carefully reviewed by the library administrator and Board. At this point the appropriate City or County building official may furnish some helpful observations. The building official will be able to compare conditions with the requirements of the applicable building codes. In Wisconsin, buildings are regulated by the Wisconsin Administrative Code, *Rules of Department of Industry, Labor and Human Relations*, 1978, *Building and Heating, Ventilating and Air Conditioning Code*. In addition, local governmental agencies may adopt codes which are more stringent, providing that the provisions are not in conflict with the State Code. One such code that is widely accepted - sometimes with minor local revisions - is known as the *Uniform Building Code* produced by the International Conference of Building Officials. (See footnotes Nos. 8 and 9 in this chapter for bibliographic information. Since building codes are revised every year or two, be certain that you use the most recent code authorized for use in your jurisdiction.)

E. THE SURVEY BY PROFESSIONALS

In all likelihood, the findings of this initial study will provide a list of shortcomings which will range from the obvious to the merely suspicious. It would now be appropriate to request a survey of the building by qualified professionals such as archi-

tects and/or engineers knowledgeable in structural, electrical, and mechanical details and the codes by which they are governed. This survey should consider the building in terms of its physical adequacy to continue serving as a library for the next two decades. Findings and recommendations should indicate current problem areas and the cost of remedial work. Further, the report should call attention to any potential problems which are apt to to require repair, replacement, etc., during the next 20 years.

If the preliminary study has indicated that the building is in reasonably good health and that space needs might be met through remodeling and/or expansion of the building, the survey by professionals may also include a feasibility study for such remodeling and additions. Here, the architects and/or engineers will need to assess the applicable requirements of the building code which come into force when such work occurs. They will also determine how well the building's structural, mechanical, and electrical systems can adapt to major remodeling and/or expansion. If an architect is involved, the same study can cover any special design problems which might be incurred.

In seeking an architect and/or engineer to study the existing structure, the library Board should stress the importance of experience and impartiality. Sometimes this means going beyond the local community. The cost of such a study will be minimal but should be carefully determined and arranged for by contract; the library Board should stipulate all the areas to be covered in the study and require a written report covering the findings. Such a survey should include cost estimates for any remedial work suggested. These figures will be helpful in determining which of the various alternatives is most appropriate - remodeling, expanding, or constructing a new building.

The professional survey usually begins with a review of the findings deduced during the first step of plant analysis. This is followed by on-site inspection of the building. The study is usually accomplished in a few weeks and normally concludes in a meeting between the architect and/or engineer and the library Board to review the findings and recommendations. In all likelihood, the professional survey will confirm many, if not all of the deficiencies unearthed during the first step of the building review, while adding much in the way of detail. Going beyond the area of lay observations, the professional study provides an authoritative base for assessing the library building as a structure and for estimating the costs of remedying any serious deficiencies.

IV. SUMMARY

After following the sequence of this chapter, the librarian and Board will have amassed information about the community's present and future library facility needs, including:

A. Amount of space presently devoted to various aspects of library operations.

B. Amount of space required to adequately house the present library.

C. Amount of space which will be required 10 and 20 years hence to house a library operation to meet the needs of the changing community.

D. Assessment of the present library structure in terms of its physical condition, deficiencies, and approximate costs of any necessary modifications.

The information gathered during this period of needs assessment will be used and reused in succeeding stages of the facility project, more than repaying the time, effort, and cost required to secure this substantive data. With this study in hand, the library Board and administrator should be prepared to evaluate the alternatives presented in the following chapter.

CHAPTER III

EVALUATING ALTERNATIVES

Although a clear-cut solution to the library's facility problems may appear in some cases, three, and possibly four, alternatives must be considered: (1) remodeling to increase the utility of the existing space, (2) expanding the existing structure through an addition of some sort, (3) constructing an entirely new building, or (4) occupying a building previously used for another purpose. The objective of this chapter is to discuss factors involved in each of these alternatives.

Armed with the basic information gathered during the needs assessment study described in the previous chapter, the library administrator and Board are now aware of the approximate space the library requires for both the present and the next 20 years, and have a detailed knowledge of the present library building's physical condition.

I. REMODELING THE PRESENT STRUCTURE

Remodeling the present facility is usually the first alternative to be considered. Whether or not remodeling is feasible depends upon a variety of factors of which cost is but one. Only a few of the major concerns can be mentioned here; others will no doubt appear as the investigation proceeds.

A. PHYSICAL CONDITION

Perhaps the most obvious question is whether or not the physical condition of the present structure warrants remodeling. If only minor repairs and changes are necessary to remedy the deficiencies found during the needs assessment survey, then this may not be much of a factor. However, if more extensive work is required - for instance, structural reinforcment and replacement of the electrical and/or mechanical systems - then the preservation of the building may be questionable and depend on the answers to other questions.

Where remodeling or an addition is contemplated, the implications of the Wisconsin Building Code must be carefully weighed. Section 50.03 provides that:

> *Ind 50.03 Application. (1) New Buildings and Additions. The provisions of this code shall apply to all new buildings and structures, and also to additions to existing buildings and structures, except those indicated in section Ind 50.04.*

(2) Alterations to Buildings. The provisions of this code shall apply to all remodeling or alterations in any building or structure which affect the structural strength, fire hazare, exits, natural lighting or replacement of major equipment. These provisions do not apply to minor repairs necessary for the maintenance of any building or structure nor to buildings exempt, as listed in section Ind 50.04.[13]

Section 50.05 further provides that:

Ind 50.05 Existing buildings code. Buildings and structures erected prior to the effective date of the first building code (October 9, 1914) shall comply with the general orders on existing buildings, Wis. Adm. Code chapters Ind 160-164, issued by the department. Buildings and structures constructed after October 9, 1914 shall comply with the code in effect at the time.[14]

Remodeling is defined in Section 51.01 as follows:

(105a) Remodeling. To remodel and/or alter means to change any building or structure which affects the structural strength, fire hazard, internal circulation, or exits of the existing building or structure. This definition does not apply to maintenance, reroofing, or alterations to the heating and ventilating or electrical systems.[15]

The requirements for compliance with the provisions for barrier-free access are somewhat different and are covered in Section 52.04.

(6) Additions, Remodeled Buildings, and Change of Use. All existing public buildings or places of employment, and all additions, shall be provided with access to a primary floor, interior circulation and toilet facilities in accordance with the following:

(a) More than 50% remodeled or added. If more than 50% of the gross interior area of a building is remodeled and/or added, the entire building shall be provided with the requirements of Table 52.04 and section Ind 52.04 (4).

(b) 25% to 50% remodeled or added. If 25% to 50% of the gross interior area of a building is remodeled and/or added, that part of the building which is remodeled and/or added shall be provided with the requirements of Table 52.04 and section Ind 52.04 (4).

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[13] *Wisconsin Administrative Code Section Ind. op. cit.* p. 2.

[14] *Ibid.*, p. 3.

[15] *Ibid.*, p.22.

(c) Less than 25% remodeled or added. If less than 25% of the gross interior area of a building is remodeled and/or added, the requirements of Table 52.04 and section Ind 52.04 (4) need not be provided unless the remodeling or addition involves an entrance or exit or toilet facilities.

(d) Toilet facilities in remodeled buildings. If an existing building having passenger elevators is remodeled in accordance with the percentages above, accessible toilet room facilities for each sex shall be provided to serve each 5 floors, or fraction thereof, and shall comply with the requirements of section Ind 52.04 (8).

(e) Change of use. If the use of an existing building is changed to a new use and the building undergoes physical remodeling, the building shall comply with the percentages established in section Ind 52.04 (6).

(f) Remodeling in stages. The percentage requirements established in this subsection shall apply to the accumulative sum of any remodeling and/or additions undertaken after May 15, 1924.[16]

The implications of these and any other provisions of applicable building codes as interpreted by local building officials should be clearly understood as part of the evaluation process. Since these regulations are subject to change, only the most recent code should be consulted for current requirements.

B. USABLE SPACE.

A basic consideration in terms of the remodeling alternative is whether or not the library building contains sufficient space which can be converted to a more useful purpose through remodeling. Where an additional floor can be gained by remodeling a basement or second story, the increase in usable space may be significant and more economical than other alternatives. Depending upon the structural system, some partitions may be removed to create larger spaces, though reinforcement of overhead beams may be required.

C. LOCATION.

It is important to determine whether the library building is located on a site which (1) will continue to be easily accessible to the public for the extended life of the building, and (2) whether there is sufficient land available for necessary purposes such as parking and delivery. Landscaping,

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[16] *Ibid.*, p. 86-87.

though less a concern, may also need to be considered.

D. INTERIM CONDITIONS

What will happen to the library during the remodeling process? Will the building continue to be operational with only minor disruptions, or will the collections and services be subject to frequent temporary moves? How will the users be affected? Will it be necessary for the library to move to other quarters while major reconstruction is going on? Such questions reflect more than concern over inconvenience implicit in remodeling projects - each involves costs which must be considered as part of remodeling. Sometimes these costs and inconveniences make the difference between accepting this alternative or some other.

E. EFFICIENCY OF SPACE

One of the problems in remodeling existing structures is that the space gained by this process may not be of the proper dimensions or in the place where it can be used most beneficially. For instance, in the case of a small library which gains space by remodeling a basement previously devoted to storage or other functions and asigns this room to house part of the library's collections and users, the cost of additional staff must be faced. Whereas supervision was previously possible from a single vantage point, it may now be necessary to have staff on both floors to provide service and supervision. Inefficient space layout was a hallmark of many libraries designed during the Carnegie period, and great care must be taken not to compound the original problems by investing money which will perpetuate this shortcoming.

F. THE PHYSICALLY HANDICAPPED

Depending upon the percentage of the building involved in the remodeling, Section 52.04 of the Wisconsin Code requires a degree of compliance with the provisions for the physically handicapped. If more than 50% of the interior space is remodeled, the entire building must meet the requirements.[17] Since these pertain to access from the outside, width of doorways, and restrooms, as well as a number of other matters, bringing an existing structure up to code may be very expensive. For instance, another step-free way must be found to bring the users into the typical Carnegie-type structure with its long flight of entry stairs. Most library restroom facilities fail to meet the requirements for the handicapped and must be extensively remodeled or replaced. If new restrooms must be provided or existing ones expanded, space and location may become major factors since restrooms should be placed where they can be easily supervised by staff. New plumbing fix-

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[17] *Loc. cit.*

tures and sewer lines can become a significant part of the total project cost. Because of the restrictions they impose on remodeling, the library administrator and Board should be conversant with the applicable regulations for the physically handicapped.

G. COSTS

Remodeling is often considered a desirable alternative because it seems to present an economical approach. However, this must be gauged against the accual benefits resulting from the project. How much additional usable footage will be made available? For how many years will this be adequate? Because remodeling involves so many unknowns, the total cost may often approach or even exceed that of a new structure. The specifics of each project will vary so enormously that the experience of others, even in neighboring communities, is of limited benefit. Architects and building contractors should be asked to supply cost estimates which will provide a basis for comparing this alternative with the others.

II. REMODELING AND EXPANDING THE PRESENT STRUCTURE

Space needs cannot always be met simply by remodeling the existing structure - additional space must be acquired by adding to the building somehow. Here, again, this alternative must be carefully analyzed.[18] Criteria such as those which follow can be helpful in determining whether this alternative is suitable.

A. PHYSICAL CONDITION OF THE PRESENT STRUCTURE

As in the case of the simple remodeling alternative, the condition of the existing structure is of primary inportance. In undertaking an addition, the relevant building codes again apply in terms of improving the existing building as well as the new portion to be constructed. Additions of any size are apt to require their own heating, ventilating and air conditioning systems and electrical panels unless the present ones conform to code and can be expanded as required. Additions must also conform to the regulations for the physically handicapped, which adds a further dimension for consideration.

B. ARCHITECTURAL CONSIDERATIONS

The alternative to add an extension to an existing structure is somewhat dependent upon architectural considerations.

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[18] The experience of other libraries in remodeling and expanding their buildings can be most helpful in creating an awareness of opportunities and problems involved in this alternative. For example, see the case history, *An Architectural Strategy for Change*. Raymond M. Holt, 1976.

How will the new area relate to the old structure? Will it be at the same grade or on a different level requiring ramps, stairs, and/or other types of vertical access? What kind of wall or walls must be pierced or removed to join the existing structure to the addition? If such walls are load-bearing, extensive reinforcing may be required. Can the addition be made compatible in design with the existing structure? It is almost mandatory that such questions as these be addressed by a qualified architect who will add many more items to this list. Each is important, however, in determining whether or not this alternative is a responsible course of action.

C. SITE AND LOCATION

Expansion of a poorly located building should be avoided for it merely compounds the limitations of use imposed by inadequate access. If the location is deemed a good one (see discussion of Site in Chapter VI), it must still be determined whether or not sufficient land exists for the new structure, along with any off-street parking, delivery entrance, etc., which may be required or desired. Sometimes the relationship of the new addition to the present structure will be adversely affected because the available land is poorly situated. Under such circumstances, a radical reorientation of functions must take place within the entire structure, complicating and increasing the cost of the project. The price of acquiring property necessary for the addition, and for any required off-street parking, must be included as part of the estimated project cost.

D. BUILDING RECONFIGURATION

Additions to buildings usually require a reconfiguration of the structure which is conditioned by the architectural/structural nature of the existing building and/or the availability of adjoining properties. Figure III-1 shows a number of the most common ways in which additions reconfigure existing structures. Obviously, these diagramatic representations will be profoundly affected by the actual dimensions of the existing structure and the proposed addition. By using the shape and mass of the existing structure, it will be possible to study the ways in which the building might best be enlarged. When the block diagram is related to the existing site, the effect the various alternatives can then be better analyzed.

E. SPACE EFFICIENCY

The economy of library operations will be directly affected by the manner in which the addition functions with the present structure. Presumably, an addition to an existing building will utilize contemporary design and materials to provide for improved building efficiency. Some additions provide very useful space at the points where more room is vital; other additions turn out to

be appendages of marginal utility. Of utmost concern is the effect the addition will have on layout of collections and services, staffing, and supervision. If additional staff will be required because supervision cannot be maintained from the usual point(s), this must be acknowledged. An addition which forces staff to travel unreasonable distances in the course of their work will prove to be an expensive one. Architects experienced with remodeling frequently point out that unless design conditions are favorable, the dollars spent on remodeling and extending an existing structure may be better spent on purchasing a smaller amount of more efficiently designed new space elsewhere.

F. TYPES OF ADDITIONS

Many of the more obvious types of additions are illustrated in the block diagrams shown in Figure III-1. A wing addition usually extends the structure further in one direction. This solution is often most acceptable when one or more units of the library's services, collections, and/or operations can be physically moved as, for instance, the children's room or offices and workrooms. Wing additions sometimes create special access problems because users must walk through other library areas to gain entrance. Supervision problems may also be compounded because a portion of the library may no longer be visually supervised from a single station.

The extension addition provides more space by extending the building in one direction more or less along its original dimensions. Such additions are often easier to plan and live with than some of the other types.

Another possibility exists if the existing library building is an irregular shape. Known generally as the fill-in type, such additions seek to add space by reconfiguring the building into a regular rectalinear shape. The consequences of such an addition vary widely depending upon the amount of new space created, its location in regard to existing space and the new internal relationships formed by the fill-in.

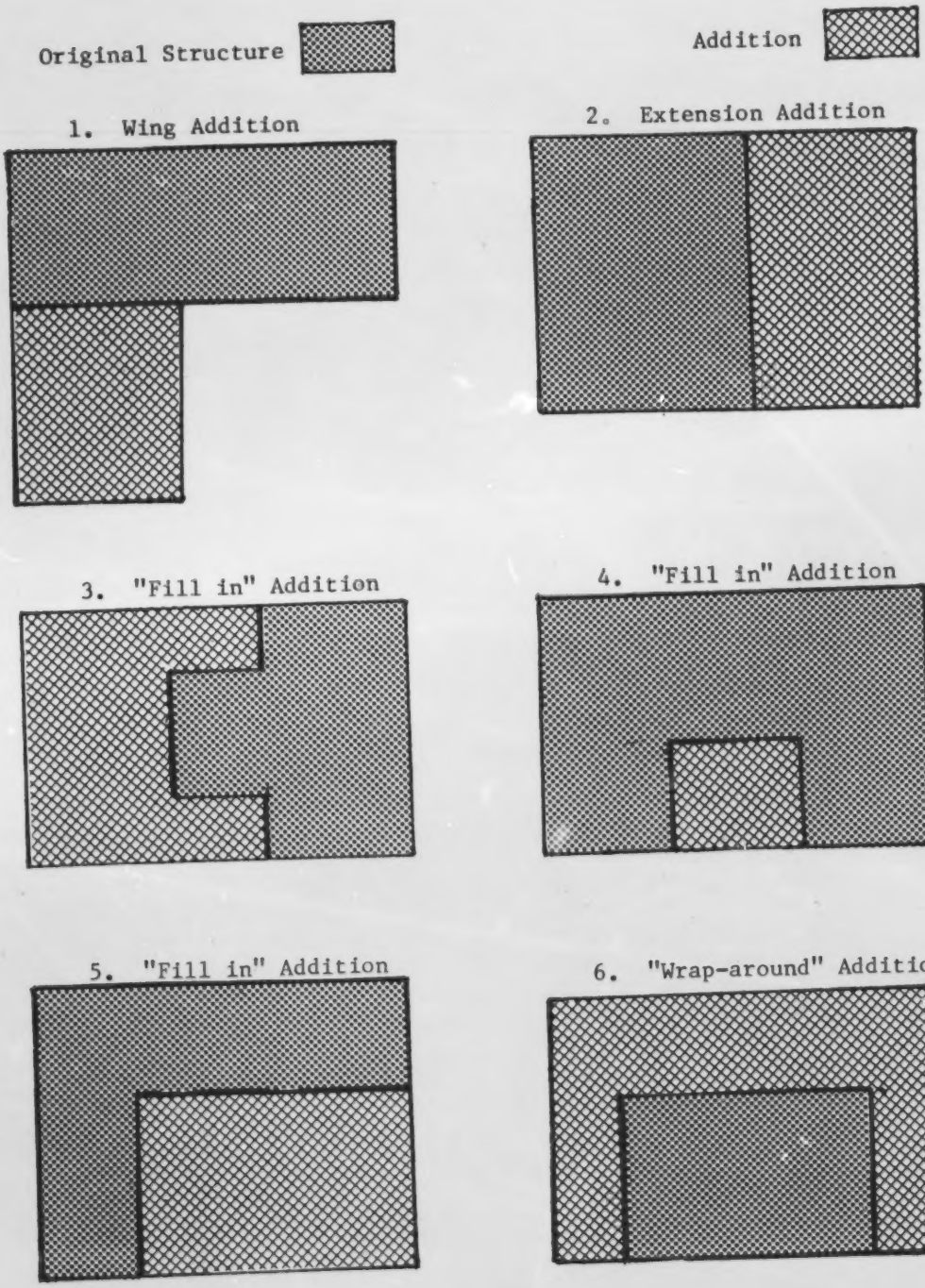
In some cases, the wrap-around addition furnishes the best alternative since it preserves the original structure while providing a new facade and additional space on several sides. This solution, where site permits, is sometimes designed so that most if not all the general public collections, services, and accommodations are in the addition - including a barrier-free new entrance. The original structure is then remodeled for more specialized public and/or staff uses.

G. MEZZANINES

Where high ceilings exist, the possibility of creating a mezzanine is apt to be among the solutions to be considered.

FIGURE III-1

COMMON RECONFIGURATION OF STRUCTURE RESULTING FROM ADDITIONS



It seems to be a natural since all that empty space is already enclosed as part of the building. However, whether a mezzanine is an appropriate solution to space needs depends upon many factors including (1) the materials and/or services to be placed there, (2) means of access to the public and staff, (3) supervisability, (4) effect on adjacent spaces, (5) structural adaptability, (6) effect on mechanical systems and lighting, and (7) cost effectiveness of the space created. In some cases the creation of a mezzanine in a building not designed for such a floor may do violence to the original design concept - a possibility which should receive the attention of the architect. Nonetheless, mezzanines have a potential for creating useful space at relatively low cost.

H. THE PHYSICALLY HANDICAPPED.

As previously noted, any new structure, whether built independently or as an addition to an existing structure, must, according to the Wisconsin Building Code, meet the requirements for the physically handicapped. Further, "if the area of the addition is more than 50% of the gross interior square footage of the existing building, the entire building shall comply with the provisions . . ."[19] The implications of this - or local codes if they exist and take precedence - must be fully understood.

I. INTERIM CONDITIONS

Will it be possible to continue operations in the present library until the new structure is finished and occupied, or will it be necessary to move elsewhere for a part or all of the construction period? If the library continues to function in the same building, how much will construction and remodeling disrupt operations? Will users be driven away by the noise and mess accompanying construction? Will the process of moving into the new addition pose any particular problems or expenses? The costs and and inconveniences attending the remodeling and expansion of a building are conditions which must be given serious consideration. An architect can be very helpful in determining the extent of such disruptions, along with raising and answering other pertinent questions about probable interim conditions, duration of construction, etc.

J. COSTS

With the help of an architect or other knowledgeable person, an estimate must be made of the probable cost of remodeling and adding to the present structure. Whether or not this alternative proves the best solution will depend upon how well it satisfies the library's long term space requirements and how it will affect library operations and their attendant costs.

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[19] *Loc. Cit.*

Where structures have been designed with future expansion in mind, this alternative may be particularly attractive. However, extensive remodeling, major structural changes, and acquisition of adjacent properties sometimes outweigh whatever benefits might be associated with retaining the existing library building.

III. THE NEW BUILDING

A third alternative is to have an entirely new building designed. This alternative has many advantages, as well as some disadvantages. In most instances, it deserves serious consideration and frequently offers the only satisfactory answer to the problem of creating adequate library space. In exploring this alternative, certain factors deserve attention.

A. ARCHITECTURAL CONSIDERATIONS

Starting fresh, the new library building can be designed as a well-integrated and efficient structure, utilizing contemporary materials and methods to maximum advantage. The design can incorporate all of the features required to relate the structure to the community, as well as to meet all code requirements, including those for barrier-free access to the physically handicapped and energy conservation.

B. USABLE SPACE

New library buildings often reach 70% to 80% efficiency in terms of space utilization as compared to 50% - or sometimes even less - for older structures. This means that at 80% efficiency a structure of 6,250 gross square feet will provide the same amount of usable floor area as a 50% efficient structure grossing 10,000 square feet. Since a new building frees the designer from existing structural and design elements, space can be organized for more effective utilization. For instance, if columns are necessary, these can be designed around a module compatible with library shelving, thereby maximizing flexibility. The new building approach will also permit incorporating provision for future expansion through construction of unfinished areas and/or designing for later additions.

C. SITE AND LOCATION

Since the location of the library building is of major importance, Chapter VI has been devoted to this topic. Reference may be made to that chapter at this point if site is expected to be a problem. Obviously, sufficient space must be provided for the structure and any required off-street parking and/or delivery access. Parking requirements are usually a part of local building or zoning laws. Since libraries are not always specifically covered, an official interpretation should be sought very early in the planning. If future horizontal expansion is contemplated, the site should be large enough to contain the building in its ultimate dimensions.

D. INTERIM CONDITIONS

Unless the new structure is to be built on the site occupied by the present building, library operations will not be affected except for the brief period when moving is actually underway. If the present site is to be used for a new library, a temporary location must be secured for the library for the duration of the demolition and construction period. Usually, temporary quarters can be found in vacant store buildings or other commercial structures. While moving a library twice is a task of some proportions, with proper planning (see Chapter XII) it can be handled with a minimum of strain and cost. Seldom is the decision to construct a new library or retain and expand the present structure affected by the lack of suitable temporary quarters.

E. EFFICIENCY OF SPACE

As previously noted, a new building can take advantage of design techniques which maximize flexibility and efficiency in operations. Proper relationships can be maintained between collections, users, and staff functions with due regard for the needs of each. Obstructions such as columns and load-bearing walls can be minimized and, except where the space requirements are too great, public related collections and functions can be restricted to one level, precluding the problem of public staircases and/or elevators. Building security, energy conservation, and economical maintenance are further potential benefits associated with the new building alternative.

F. THE PHYSICALLY HANDICAPPED

Since a new structure must meet all code provisions for the physically handicapped, the library will occupy a barrier-free structure. This will eliminate costly renovation of existing facilities while providing for maximum accessibility to everyone in the community.

G. THE COSTS

Architects and building contractors can provide fairly accurate data on new construction costs since all of the conditions are known. To the construction figure must be added the cost of land acquisition if a new site is to be purchased. As in the case of the other alternatives, the total project cost would also include furnishings and equipment, moving, landscaping and fees.

IV. CONVERTING A BUILDING CONSTRUCTED FOR ANOTHER PURPOSE

From time to time a library may find that its particular community provides a fourth alternative - the conversion of a structure originally built for another purpose. Often, such buildings have been

used for purposes such as markets, department stores, banks, savings and loan institutions, or post offices. Sometimes this alternative provides the most economical method of gaining desired space in an attractive location or securing a sound structure for a library presently housed in a building with major deficiencies. As building costs continue to rise, this alternative may be particularly attractive providing evaluation is based upon realistic figures for purchase and remodeling.

A. THE SURVEY

The first step in pursuing this alternative is to determine whether or not such a building now exists or may become available in the near future. In a small community the library administrator will be fully aware of all the possibilities; in a larger community help may be needed from another source such as a reliable realtor dealing in commercial property. Where the local government maintains an official or employee to obtain rights-of-way and/or evaluate property, he or she should be used, of course. A negative answer from such sources will usually mean that this alternative holds little promise. However, a positive response will launch the library administrator on another survey with the following criteria in mind.

1. SIZE AND LOCATION

Perhaps the most obvious factor is whether or not the prospective building offers sufficient space to meet the library's requirements. If so, how well does the site meet the location criteria discussed in Chapter VI? In other words, is the building big enough and is it located where it will be easily accessible to a majority of the library's users - present and future?

2. CONDITION OF THE BUILDING

Once the questions of size and location are resolved, then the condition of the building becomes of paramount importance. How much remodeling will be required? Are the mechanical and electrical systems in good working order and adequate for the library's needs? Is the structure sound? Will the floor withstand the 150 lb. per square foot weight of loaded book shelving? Does the building meet the barrier-free access requirements for the handicapped. Again, it becomes important to have the building analyzed by architects and/or engineers. Some buildings may offer adequate space, but because their original purposes were quite different; lighting and mechanical equipment are inadequate and must be replaced. Restrooms sometimes pose a problem because most retail and commercial facilities have very limited space devoted to restrooms as compared to public buildings. These, and many similar questions, must be answered.

3. SPACE UTILIZATION

Do columns and load-bearing walls permit flexibility in the arrangement of collections, user accomodations, services and library personnel? Most commercial and retail buildings are fairly open in concept and have advantages, therefore, for library use. If, on the other hand, load-bearing walls have been used, bookstacks, readers, and personnel must be forced into a layout which is unsatisfactory because of structural elements. The building then becomes much less attractive as a solution; regardless of other merits, such buildings will almost always result in higher operating costs.

4. THE PHYSICALLY HANDICAPPED

Since building codes normally require that a structure must be brought into full conformance with all code provisions if the type of occupancy changes, the provisions for the physically handicapped would have to be met.[20] The costs for such modifications may be an important decision.

5. THE INTERIM CONDITIONS

Because the library would be making a single move from the existing building to the new library when remodeling is completed, inconvenience to user and staff alike would be the same as that involving a library building constructed on a new site.

6. FUTURE EXPANSION

Another question which should be addressed is whether or not the structure will meet both present and future needs for the library. If the total square footage is less than that projected for the 20-year period, then both the building and the site should be looked at in terms of suitability for a future addition, or additions. Here, many of the factors discussed previously are applicable.

7. COSTS

The cost of this alternative involves the initial purchase price, expense of remodeling, and/or expansion now or later. The owner or his representative can provide the purchase price and an architect can estimate the cost of remodeling.

V. DISPOSING OF THE OLD LIBRARY BUILDING

When considering either a new building or converting an existing

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[20] *Loc. Cit.*

structure to library use, the question of what to do with the present library building is apt to arise. Where severe structural problems exist, the most probable solution is demolition. The residual value then lies with the site itself. Realtors and others can provide value appraisals and suggest possible buyers. Any proceeds from the sale of the land should, of course, be used as a part of the finances for the new building. Sale of the land can be complicated, of course, by deed restrictions which commit the property to some form of public use. A careful reading of the title should determine whether such conditions apply.

If the disposal of the library building involves demolition, assistance should be sought in determining the possible value of building materials such as hardware, doors and windows, stained glass, paneling and other things which may be salvaged. In recent years a growing market for such items has increased their worth many fold. Every effort should be made to receive maximum value from salvage.

Old library buildings need not always be torn down simply because the library moves elsewhere. Library buildings lend themselves to many community and civic purposes ranging from museums and art galleries to government offices and conference centers. Some library buildings which are structurally sound and require only limited renovation for commercial purposes can be converted into attractive retail shops, boutiques, restaurants, etc. Possibilities like these should be fully explored before a final decision is made on the disposal of any existing library building.

VI. COMPARING THE ALTERNATIVES

When two or more of the four alternatives are being considered, the library administrator must not only assemble the data, but find a way to make a comparison of the advantages and disadvantages of each. Care should be taken to avoid letting this be simply a dollars and cents comparison or decision, although costs must always be an important factor. Data can be presented in various formats, including narrative reports or as a comparative chart. The latter approach is illustrated in Table III-1.

The conditions and figures in the table are arbitrary. However, they serve to illustrate one way in which a comparison of the four alternatives might be made to assist decision making. In actual practice, such a table would be somewhat longer and more detailed. It is important to note, however, that by placing the project into a 20-year framework the information and cost figures take on rather different meaning than when considered only on the basis of immediate investment or first costs. In this hypothetical example, for instance, the second alternative offers the cheapest immediate solution. In the long run, adequate library facilities would cost much more under Alternative II than either Alternative III or IV. The effort made to thoroughly analyze each alternative will be repaid many times.

In the hypothetical situation explored in Table III-1, the following scenario has been assumed. Constructed as a Carnegie era library, the library building possesses the typical design features of that period. Crowded conditions have prevailed for some time in spite of efforts to make existing space do. A community study has established the need for 10,625 net square feet of library space for the present growing to 12,514 ten years from now and 14,735 net square feet in 20 years. The present building contains approximately 6,925 net square feet, or about 65% of what is needed.

During the preliminary stages of the study, data has been gathered on all four alternatives. Some remodeling is possible, adding about 1,000 square feet. An addition can also be made providing two old residences are purchased on the north side of the building. These are currently valued at only $25,000. If a new library were to be built, the choice location would be on State Street which provides adequate space and good access. The Community Center, at Park and Elm would provide a free site but is inconvenient. In pursuing the conversion of an existing building as the fourth alternative, "Old Towne Market," also on State Street has recently moved into its new building leaving its old structure vacant and available for possible resale.

Using this scenario as a basis, certain particulars have been incorporated in Table III-1 as findings in this hypothetical situation. The purpose of this format is to provide a means for comparing information - not to support a particular position or decision. It is a tool for the use of the library administrator, the library Board, and any others concerned with the decision making processes associated with providing adequate library facilities in this hypothetical community.

VII. THE HISTORICAL MONUMENT SYNDROME

Library buildings in some communities face what might be considered the "Historical Monument Syndrome" - an almost irrational desire on the part of some segments of the public to retain certain buildings at all costs as objects of veneration. Because library buildings are often among the oldest remaining in a community, and because of childhood memories perhaps, adults sometimes single them out for preservation. Therefore, as soon as the library's need for new and improved space is voiced, there is sometimes a public outcry aimed at saving the building. There is no easy answer to this problem but some suggestions can be made.

First, it is important to separate the concept of the building as a monument from that of a structure housing a service institution which must employ the most contemporary means to provide needed access to complex information resources in response to community requirements in a cost-effective manner. If the image of the library is allowed to persist as that of an ivy-covered building filled with

TABLE III-1

FORMAT FOR A CHART COMPARING ALTERNATIVES FOR A HYPOTHETICAL LIBRARY BUILDING SITUATION

FACTOR	ALTERNATIVE I Remodel	ALTERNATIVE II Remodel & Add	ALTERNATIVE III New Building at Main St. & Elm	ALTERNATIVE IV Conversion of Existing Building ("Old Towne Market")
1. Physical Condition:				
a. Structure	Major cracking of foundation & walls; roof must be replaced; floor weak under stacks	Same as for I. Load-bearing wall on side where addition would go must be replaced	New New	Adequate. Leakage around skylights. New floor covering necessary. Redecorating required throughout building
b. Mechanical	Furnace must be replaced; cooling system also inadequate	Same as for I. Would have to replace entire system to service addition	New	Capacity is estimated as less than 1/2 of that required
c. Plumbing	Frequent repairs required; all fixtures need to be replaced	Space in addition could be used for new restrooms; present restrooms could be converted to other uses	New	Number of fixtures inadequate; code requires twice as many
d. Electrical	Outlets few in number & poorly located; occasional trouble with overloaded circuits; wiring & switch panel at capacity	Same as for I; would need new panels with undetermined amount of rewiring necessary in old building	New	Wiring adequate; will need numerous outlets - some in floor; new lighting required

2. Site and Location	Site (Main Street at First meet basic criteria of an accessible location)	Same as I; site too small for addition unless two residences are acquired on north side	Site on State St. is as accessible as present one on Main St.	Good location on State St. with parking and exposure to vehicular and pedestrian traffic; two lots available on east side for future expansion
3. Usefulness of Space				
a. General Comments	Remodeling will add approximately 15% to the available space; Present: 6,925 sq. ft. Remodeled: 7,965 sq. ft. including basement & children's room. New entrance will be required with ramps to both levels; fixed walls upstairs restrict flexible use. Extra staff will be required to supervise basement area	Leave basement as is; build a 4,000 sq. ft. addition for children's room and adult reading room; with new entrance total space: 10,965 sq. ft. Existing building will remain inflexible due to fixed walls; new area will be more flexible in use; ramp will be required between addition and existing building	Build 12,514 sq. ft. needed for now and next 10 years; provide for addition to be built later for ultimate growth. All space designed for maximum utility	Old Towne Market has approximately 10,000 sq. ft. of usable space; by acquiring adjacent land on east side, a future wing of up to 5,000 sq. ft. might be possible. Column spacing may limit flexibility of stack arrangement

TABLF III-1 (cont.)

FACTOR	I. Remodel	II. Remodel and/or add	III. New Building	IV. Convert Existing Building
4. Future Expansion Comparison of net Sq. Ft. provided with projected requirement: Needed now: 10,625 sq. ft. 10 years from now: 12,514 sq. ft. 20 years from now: 14,735 sq. ft.	7,965 sq. ft. An addition of up to 3,000 sq. ft. if possible: Total net sq. ft. = 10,965	10,965 sq. ft. Further expansion considered impractical because of site limitations and design considerations	Build 12,514 sq. ft. to meet needs for next 10 yrs. Add 2,500 sq. ft. wing. Total net sq. ft. +15,014	Present building contains 10,000 sq. ft. Add 5,000 sq. ft. wing in 10 years. Total net sq. ft. = 15,000
5. Provisions for the Physically Handicapped	Extensive remodeling required, including new restrooms, ramps to both entrances, using some of present library space	Restrooms and entrance provided in new addition at ground level; ramp to old building will be necessary	All provisions designed into construction	All provisions designed into remodeling
6. Interim Conditions	Various areas will be closed from time to time with much shifting of collections and temporary work stations, etc., with	Same as with I; Addition will be built while existing structure is being remodeled. Estimated construction time: 6 months	No interruption of service except for one week to move. Estimated construction time: 9 months - 1 year	No interruption of service except for moving. Estimated construction time: 8 months

	possibility of closure when mechanical and electrical systems are replaced. Minimum of 5 months to construct; longer if adverse weather conditions occur at critical times			
7. Estimated Costs				
Site acquisition	None	$25,000	None if Community Center site is used; preferred site on State Street estimated at $42,000	Old Towne Market priced at $135,000 but would offer $100,000; adjacent lot for future expansion = $20,000 if bought now Total = $120,000* $155,000
Remodeling	7,965 sq. ft. @$20.00=$159,300	6,925 sq. ft. @$20.00=$138,500	None	10,000 sq. ft. @$20.00=$200,000
New Construction	None	3,000 sq. ft. @$40.00=$120,000	12,512 sq. ft. @$40.00=$500,560	None
Total Initial Cost:				
Site	None	$ 25,000	$ 42,000	$120,000*-$155,000
Construction	$159,300	258,500	$500,560-$500,560	$200,000*-$200,000
Total	$159,300	$283,500	$500,560-$542,560	$320,000*-$355,000

*If offer of $100,000 is accepted.

TABLE III-1 (cont.)

FACTOR	I. Remodel	II. Remodel and/or add	III. New Building	IV. Convert Existing Building
7. Estimated Costs (cont.)				
20 Years from now.	New building of 16,000 sq. ft. @$40.00=$640,000	New building of 16,000 sq. ft. @$40.00=$640,000	Addition of 2,500 sq. ft. @$40,000 = $100,000	Addition of 5,000 sq. ft. @$40.00 = $200,000
Total for 20-year program:				
Initial	$159,300	$283,500	$500,560-$542,560	$320,000*-$355,000
Future	$640,000	$640,000	$100,000-$100,000	$200,000*-$200,000
Total	$799,300	$923,500	$600,560-$642,560	$520,000*-$555,000

*If offer of $10,000 is accepted

musty stacks, old oak tables, and quiet nooks and crannies for snoozing and reading, then the historical monument appellation may well fit.

Secondly, there's nothing wrong about having the library inhabit an historical monument, provided the community is willing to finance its rehabilitation and expansion as a modern library and provide for higher operating and maintenance costs. Few communities seem willing to accept these conditions, however. Again, it is imperative that the concept of library service be separated from the image of the building it occupies to divorce the library from the emotions of the public.

Thirdly, an effort should be made to clarify the true historical character of the library building. Was it designed by an architect of note? Does it contain some special structural or esthetic component worthy of preservation? Does its age have any real significance when compared to other public buildings still in existence in the community? Does the building have an historical importance beyond the local community? Or is the library building venerated simply because it evokes nostalgic thoughts and memories on the part of some?

Besides answering these questions and others like them factually, forthrightly, and unemotionally, alternative uses of the structure should be explored. Many such buildings can be converted at a fraction of the cost necessary for library remodeling into attractive homes for other community functions. For instance, some serve as excellent community museums, while others find new life as centers for community arts and crafts. Some library buildings can become community centers providing meeting rooms and small auditorium facilities. Still another alternative is to explore the possibility of reusing the structure as a commercial building. If properly located, the building may have considerable commercial potential - especially in this day of nostalgia. Some of the commercial possibilities would include boutiques, clothing shops, and even restaurants. As a commercial property, the old building would become a financial asset - its sale could provide some of the funds needed for a new library building; its return to the tax rolls would have a positive effect for years to come.[21]

Finally, the library administrator must avoid becoming entangled in the web of emotions that the historical monument syndrome seems to precipitate wherever it strikes. By concentrating on careful analysis, and a consideration of alternatives, the library administrator is less apt to feel trapped by what some have described as an unreasoning and unreasonable force. If there is reason to believe that the historical monument flag will be raised, it is imperative that a careful investigation of alternatives be made a part of the preliminary studies and incorporated into the criteria for decision making.

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[21]The conversion of the former library building in Ripon into a dress shop is an interesting case in point.

VII. SUMMARY

The analysis of alternatives requires a good deal of time and effort for it is at this point that major, almost irrevocable, decisions must be made. The library administrator and Board must consider each factor as rationally and fully as possible. Wherever needed, assistance should be sought from building officials, architects, and engineers, so that the accumulated data is accurate and authoritative. Clear, precise, and complete presentation of data is essential to good decision making. Once the information is impartially gathered and ready for presentation, then officials and public alike should be involved in the decision process.

CHAPTER IV

THE LIBRARY BUILDING PROGRAM STATEMENT

Having completed the needs assessment study and given consideration to the several alternatives, the next step in the building project has been reached: preparing the library building program statement. At the heart of nearly every successful library building project is a carefully prepared written statement known as a library building program. The library administrator and Board should be familiar with the objectives and purpose of building programs. A good place to begin is with the Division for Library Services pamphlet, *The Building Program Statement for a Public Library Construction Project*. Some other basic readings are also listed in the footnote below.[22]

This chapter has been written to provide further guidance and help; it has been divided into the following major areas: (1) scope and objectives of the building program, (2) preparation of the building program data, (3) content of the building program, and (4) interior design and the selection of furniture and equipment. The reading of this material should promote a better understanding of the building program as a major instrument in the building project. Several sample pages from an actual building program have been included as Appendix A.

I. SCOPE AND OBJECTIVES OF THE BUILDING PROGRAM STATEMENT

Building programs which function best are those which adhere closely to the accepted scope and function of such statements. If the goals are clearly understood and adhered to, the program will be an indispensible document. Whether the project concerns a remodeling of the present structure, an addition, or an entirely new building, the scope and objectives are the same.

A. THE OBJECTIVES OF THE LIBRARY BUILDING PROGRAM STATEMENT

The primary objective of the written library building program is to describe the purpose, functions, and operations of a particular library in terms of its space, environmental requirements, and characteristics. The program describes the various areas, their space requirements, and the relationships which must exist if the library is to function effectively and efficiently. When

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[22] Metcalf, Keyes D. *Planning Academic and Research Library Buildings*. McGraw-Hill, 1965. Pp. 251-284.

Myller, Rolf. *The Design of the Small Public Library*. R. R. Bowker, 1966. Pp. 22-23.

Trezza, Alphonse F. (ed.) *Library Buildings: Innovation for Changing Needs*. American Library Association, 1972.

Wisconsin. Bureau of Public and Cooperative Library Services. *The Building Program Statement for a Public Library Construction Project*. 1976.

completed, the program is the architect's source book, providing all the essential information and the guidelines required for designing a structure which will adequately house the library.

A second, but equally important objective of the building program, is to serve as a tool to encourage the librarian, the library Board, and the staff to identify problems and work out solutions. Should the number of service desks be increased or combined in some new fashion? Will the library's personnel organization remain about the same or will the new building require a general reorganization of offices and workrooms? Will the public catalog in the library continue to serve the entire library or will one or more additional catalogs be developed? How will automation affect service and routines? At every twist and turn, the alert librarian will find questions which must be answered in terms of how the library can best be operated in the future. The building program, to be effective, must be constructed around these solutions - not simply a record of how things are done now. Before beginning the preparation of the building program it may be helpful to think of the objectives in terms of the questions which are likely to occur after the project has been completed. Some typical examples have been provided in Chapter XIII of this *Handbook*. They are reminders that the time spent in anticipating and solving problems in the building program stage will avoid long-term shortcomings.

The building program also serves as a checklist during the plan development stage. This process, described at some length in Chapter VIII, simply consists of checking the requirements established in the building program with what is actually provided in the plans. Obviously, there will be numerous differences, but these should represent changes which have been made consciously as the result of architectural development.

B. SCOPE OF THE PROGRAM

The written building program covers every facet of the library from its major collections and services to details on the organization of procedures. Flow diagrams and relationship drawings should be used freely to help the architect visualize what may seem very simple and familiar to the librarian but complex and unintelligible to the outsider. At this point the architect usually has not been chosen so there is no guarantee that the person selected will have ever designed a public library building before. Therefore, use of library jargon should be avoided and all terms well defined. For instance, circulation means the activities associated with borrowing materials to the librarian, but architects use the term to describe the flow of people.

Building programs should also deal with esthetics and the atmosphere or feeling which you want the building to reflect. If some moderate noise can be tolerated at the circulation and public service desks, say so. If certain areas are to be relatively noise

free, this too is important. Where special attention should be paid to decor, as in a children's area, describe the effect you want to achieve without making the architect's decisions. This requires a clear concept in the mind of the program writer, and a careful choice of words.

II. PREPARING THE BUILDING PROGRAM STATEMENT

Preparation of the building program statement requires an understanding of the kinds of information to be provided and how it can be presented to the greatest advantage. Other questions should also be addressed such as, who should write the program statement and how can the public be involved?

A. WHO SHOULD PREPARE THE BUILDING PROGRAM?

The data necessary for a building program orginarily requires input from a variety of sources. The actual writing, however, usually should be left to a single author. In most instances this responsibility will probably be delegated to the library administrator. In the small library, the library administrator is the person most apt to know and understand all of the details involved in every library operation and their significance for the building. In larger libraries, the library administrator may assign various topics to staff members or committees for initial study and preparation of a draft statement.

The staff and Board must recognize that the process is long, involved, and tedious. If there is considerable urgency, the library administrator may have to postpone routine tasks or delegate work to others. As the information is absorbed and coordinated into a single document, the library administrator will become aware of inconsistencies and problems which need further study and will identify questions which must be resolved before the program statement is completed

When a library building consultant, as described in Chapter VII, is retained, the burden of preparing the building program can be shifted to his or her shoulders. Although the consultant must go through the same data collection process, the actual writing of the program is usually accomplished over a shorter span of time because the consultant is able to devote full attention to this task.

B. LIBRARY BOARD AND COMMUNITY INVOLVEMENT

Library buildings belong to the users and it is important that the building program statement include input from this source. Library Board members may choose to represent the users and provide information about user needs. However, because Board members must make many difficult decisions about the building as it emerges from the program statement, it is often helpful

to have a small group of citizens, representing various ages and types of users, represent their particular needs and interests.

Even though they may sometimes seem unusual, the recommendations of such individuals must be given serious consideration. For instance, be prepared to have requests for food dispensing machines and a place for readers to enjoy refreshments along with their reading materials; others may ask that the library supply access to equipment such as electric typewriters, electronic calculators, computer terminals, and various recording devices. The public often assumes that the library can or should supply almost everything - and why not? After all, isn't it *their* library? From the administrator's point of view, it is better to have such need and expectations raised at this point than after the building has been completed. Consideration of user input will often help to reassure the public that their interests are protected and their wishes valued.

C. PROGRAM FORMAT

In preparing the building program, remember that it must be used as a reference tool throughout the term of the building project. Therefore, information should be presented in a logical sequence. By using numerous heads and sub-heads, reference to particular subjects can be made easier. When the program is completed, a table of contents in which the heads and sub-heads are arranged under their appropriate chapters will provide a topical index of sorts. Of course, a subject index will be a great asset if time and talent are available.

The library administrator may want to add a brief, preferably annotated, bibliography directing the reader to the sources he or she found most helpful. In addition, appendixes may be used for data which substantiates the text but would interrupt the flow of the work if inserted in the body of the chapters. Such information might include lengthy tallies of collections and long lists of furniture and equipment which may require evaluation for reuse in the new building.

D. LENGTH OF PROGRAM

The number of pages in the program is not a criteria of adequacy. Instead, the old college term paper dictum, "long enough to cover the subject," is most applicable. Some people have success in using an outline form, but most programs suffer from this approach, it seems. It is better to communicate at some length than to find that in an effort to be brief and succinct, important concepts and data were omitted or insufficiently presented. On the other hand, programs that ramble on and on without presenting essential information and ideas dilute the basic content and decrease the program's value. Although it is dangerous to give even ball park figures, as a general rule a fully documented program for even a small project is apt to run 35 or more pages, while the programs for larger libraries will be several times as long.

III. ASSEMBLING THE BUILDING PROGRAM STATEMENT DATA

Before a building program statement can be written, a large quantity of data must be assembled and analyzed. To avoid loss of time, it is important to know the kind of information which should be included and how it can best be presented. That is the purpose of this portion of the chapter. Sometimes it is helpful to review building programs prepared by others. A file of programs is available through the Bureau of Public and Cooperative Library Services, Division for Library Services, while others may be borrowed from the Library Administration and Management Association (LAMA), American Library Association. In reading these programs, visualize the kind of building you would expect to emerge from the information presented. Note the kinds of data included and the manner in which it has been presented. How successful has the writer been in conveying an image of how the library building will function? Never forget that the program is addressed primarily to the architect. The statement is intended to be the means by which the desired library building in all of its complexities is conveyed from the mind of the program writer to the architect.

A. PROJECTING FUTURE REQUIREMENTS

The building program statement serves as an objective record of what is being asked for in the building project. For this reason, the count of materials to be housed, the number of seats required for users, and all other projections must be carefully prepared. The formulas for determining given data should be inserted into the program and all work sheets kept for future reference. Mathematical errors, which can prove embarrassing, should be eliminated by having the figures checked by another person or persons.

Hopefully, the library building project will be aimed at providing space sufficient to house the library for at least 10 years, and preferably 20 years, without major change. The building program must, therefore, project requirements and space needs for that period; what the library houses now is much less important than what you believe it will be required to house 10 or 20 years hence.

To provide uniform data, it is essential that a target date be selected for all projections. Sometimes two such dates may be used, such as 10 years and 20 years hence. This is especially valuable where staged or incremental expansion to provide one or more additions is to be incorporated into the design of the building. Before attempting to make these projections, however, it is imperative that the staff, library Board members and others involved in the project, share a common understanding as to the role the library will play in the future. One technique for gaining such a consensus is to develop a simple scenario which describes the concepts and

factors you believe will govern the delivery of library services in the future. The scenario can be targeted for a decade or two ahead and will include both a description of the community to be served at that point and the library which must respond. A scenario approach often simplifies otherwise nebulous ideas by placing them in proper context. Through discussion and revision of such scenario, misunderstandings which might prove unfortunate later on can be avoided.

Once agreement has been reached on the basic concepts of future library service, it is time to proceed with the projection of data. Some of the techniques have been discussed in Chapter II and need not be repeated here. In essence, the procedure is as follows:

1. Envision the community's anticipated characteristics at the time of the target date and identify what the collections, services and programs the library might conceivably be called upon to supply.

2. Construct an organization chart to identify the positions and numbers of staff which will be required by the target date.

3. Determine how the library can best be organized to provide the materials and services which the community might need between now and the target date.

4. Using the present collections as a base, determine the growth which must take place to meet future community requirements at the target date.

5. Identify the relationships existing within and between all library functions and establish priorities for what should be next to what; these are known as relationship or adjacency studies and are absolutely basic to the successful building program.

6. Translate probable use patterns into the types and numbers of user accommodations which the library may expect to provide: seating, special equipment such as microform, audio visual, computer terminals, etc.

7. Based on your estimates of staff and library usage, describe the kinds of staff work areas which will be needed and the number of people who will probably be employed in various capacities.

8. Visualize the kinds of special resources and meeting areas which the public is apt to need and expect the library to supply between now and the target date.

As a part of this process, certain data must be quantified in much the same way as discussed in Chapter II. No magic form-

ulas exist nor are there many reliable shortcuts. All calculations should be kept against the need for future reference and explanation. Where the methodology is not absolutely clear, a few sentences describing how the figures were reached may prove of inestimable worth later on, saving hours of recalculation as well as embarrassment. Where possible, projections should be converted to simple tables with meaningful headings for use in the program.

IV. THE PRESENTATION OF PROGRAM INFORMATION

Much of the information presented in the program will be in the form of narrative writing. However, tables should be used where they will be helpful in presenting numerical or quantitative data. Before introducing lengthy tables, review their importance and determine whether a summary of totals may be sufficient, providing you retain the work sheets for support in case the figures must be checked.

When a particular concept is difficult to describe in words, try visualizing the concept and recording it in the form of a diagram or line drawing. Many times information which seems obscure and labored if presented in words becomes clear and simple when reduced to lines. The architect for whom the program is being written is well versed in interpreting drawings and will readily grasp their meaning; do not worry about artistry - just be sure that the illustration you prepare accurately describes what you want to convey. If you feel your own art work is hopeless, perhaps a member of the staff or a library user with some skill in this area will convert your effort into better form. Such illustrations should always be captioned and related to the text.

A. THE SCHEMATIC RELATIONSHIP DIAGRAM

Since the most vital information in the building program concerns the manner in which the various areas should relate to one another, a special way of showing such spatial relationships is useful and can be mastered rather quickly. The most common schematic relationship drawing consists of circles or bubbles which overlap or are connected by a series of lines. These two techniques are shown in Figures IV-1 and IV-2.

Besides giving the architect a wealth of information, uncluttered by assumed dimensions and walls, relationship drawings, perhaps as much or more than any other program element, force the library staff to make decisions on how things should relate and operate. Sometimes called bubble diagrams, figures such as these should be used throughout the program.

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[23] Some additional examples can be found in articles appearing in the *Wisconsin Library Bulletin*, Volume 63, No. 3, (May-June), 1967, on pp. 151-153, and Volume 71, No. 5 (September-October), 1975, pp. 197-200. Also see Appendix A.

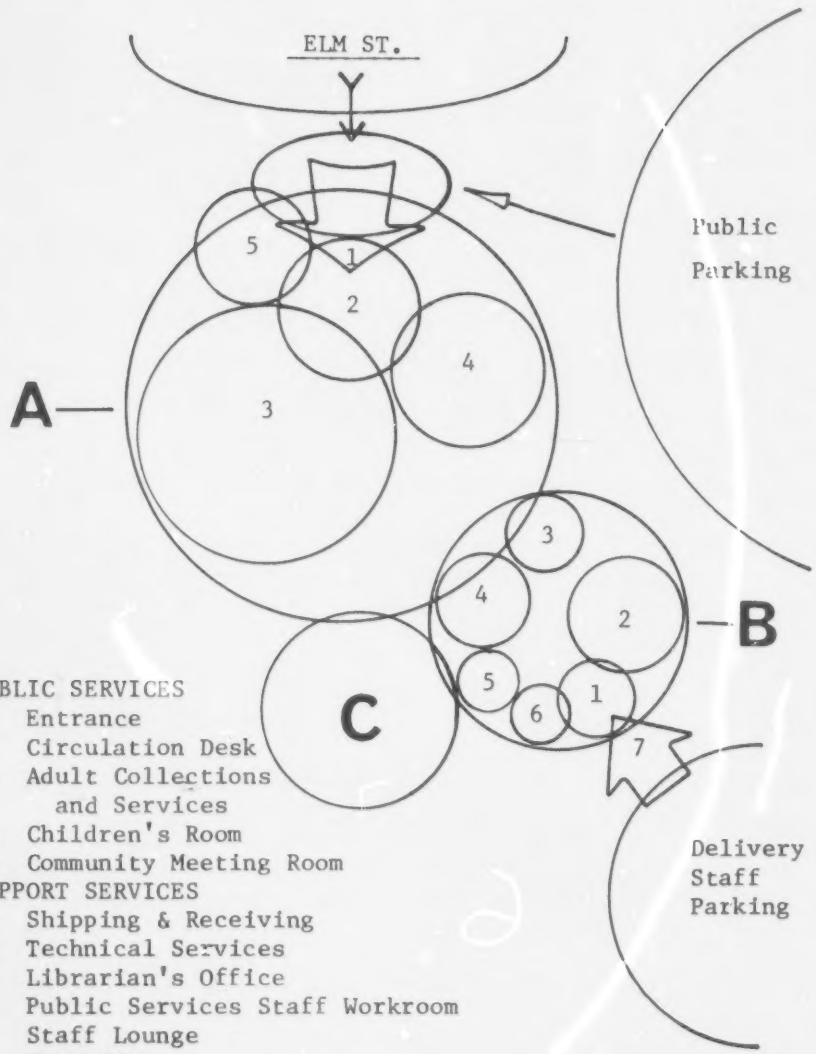
In Figure IV-1 are shown the basic relationships which might apply to major library areas. Although a seemingly simple diagram, the figure presents some very important and basic decisions which have been made by those preparing the program. For instance, the architect is made aware of the fact that the building is made up of three basic areas: public services (A), support services (B), and a storage area (C). Within each of these, certain fundamental relationships also pertain. For instance, public access to the library is both from Elm Street and from the public parking lot. Inside the building entrance, the public is to enter the circulation area (2) and find the adult collections and services (3) on their right, and children's services on the left. In support services (B), a second entrance is to be created for delivery and staff. The technical services workroom (2) will be found on the right and the custodian's workroom and storage area (6) on the left. Beyond will be located the staff lounge (5), the public services staff workroom (4), and the librarian's office (3). The overlapping of circles 3 and 4 indicate a direct relationship with the public services area. Storage (C) is shown as a separate major element but one which is closely related to both public services (A) and support services (B). Presumably, each of these various elements will be expanded upon in subsequent parts of the building program to fully develop both their internal and external relationships.

A concept for the internal layout of the library begins to emerge in Figure IV-2. After repeating the fact that the adult services area (5) is to be entered through the circulation area (2) this diagram indicates that a reference desk (6) is to be located at the entrance to this part of the building. It is to be closely related to the catalog and indexes (7). These, in turn, are tied to the reference collection (8). The person entering the adult area will find the "popular collection" (9) to the right, beyond which is the circulating collection (1). User seating (11) is shown as relating to the popular collection, the circulating collection, and the reference collection. Information in the text would further explain these relationships and describe the kind of user seating needed and other requirements for each area. A close relationship is shown to exist between staff offices and work areas (12) and adult services (5), circulation (2), and the children's area (3). By virtue of the double arrow, the architect must assume that there is a specific tie between reference (8) and storage (13) - (perhaps backfiles of periodicals, etc., which must be paged when needed).

Relationships similar to those shown in Figure IV-1 are shown in a different manner in Figure IV-3. Here, the circles are used to represent various units of services, etc., and the relationships are represented by lines running between them. Thus, the program indicates that the meeting room (2) is accessible only from the entry and that those entering either the children's room or the adult services room must pass by the circulation desk. The

FIGURE IV-1

SCHEMATIC RELATIONSHIPS OF MAJOR LIBRARY AREAS



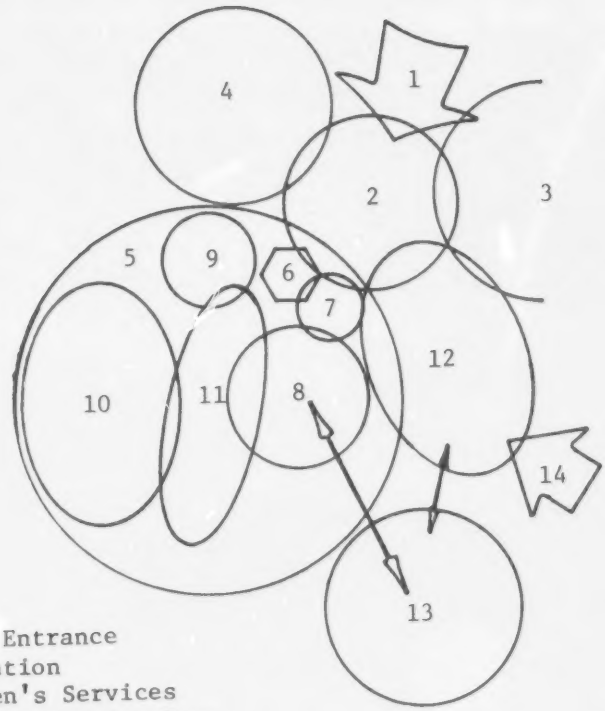
A. PUBLIC SERVICES
   1. Entrance
   2. Circulation Desk
   3. Adult Collections and Services
   4. Children's Room
   5. Community Meeting Room

B. SUPPORT SERVICES
   1. Shipping & Receiving
   2. Technical Services
   3. Librarian's Office
   4. Public Services Staff Workroom
   5. Staff Lounge
   6. Custodian
   7. Delivery & Staff Entrance

C. STORAGE

FIGURE IV-2

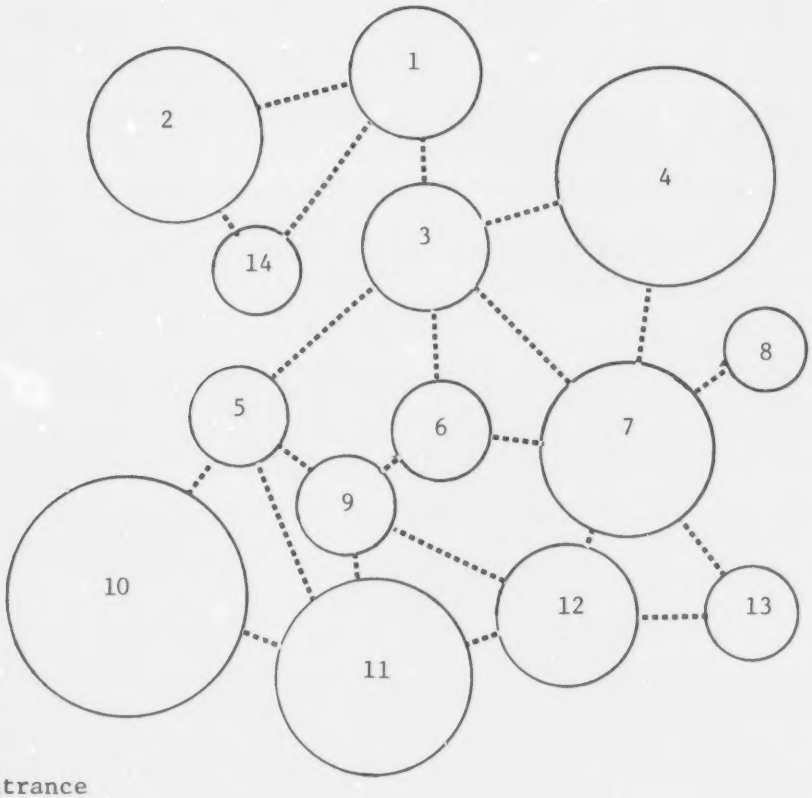
SCHEMATIC RELATIONSHIPS FOR THE ADULT SERVICES AREA



1. Public Entrance
2. Circulation
3. Children's Services
4. Community Meeting Room
5. Adult Services Area
6. Reference Desk
7. Catalog and Indexes
8. Reference Collection
9. Popular Collection
10. Circulating Collection
11. User Seating
12. Staff Offices and Work Areas
13. Storage
14. Staff and Delivery Entrance

FIGURE IV-3

SCHEMATIC RELATIONSHIPS SHOWN BY CIRCLES INTERCONNECTED BY LINES



1. Entrance
2. Meeting Room
3. Circulation Desk
4. Children's Services
5. Reference Desk
6. Catalog & Indexes
7. Staff Offices & Workrooms
8. Staff Lounge
9. Reference Collection
10. Adult Circulating Collection
11. Adult Seating
12. Storage
13. Delivery
14. Restrooms

reference desk (5) is related to the circulation desk (3), the catalog (6), reference books (9), adult circulating collection (10), and adult seating (11). By following the broken lines the relationships of each area to the others can be similarly traced. In a variation of this technique the stronger and more important relationships might be shown with heavier unbroken lines showing that value decisions have been made which determine certain priorities on how things are to be interconnected. Thus, the lines between the reference desk (5) and the catalog and reference books might be shown as a strong solid line indicating a major relationship, while a broken line would be used to indicate a lesser relationship with the adult circulating collections and adult seating. Whether shown by circles which do not overlap or which are not connected by lines, attention should be called to the fact that negative of "non-relationships" are equally important as interrelationships. Thus, in Figure IV-2 the fact that circles representing Community Meeting Room (4) and Public Adult Services (5) do not touch indicates that these areas are NOT related and can be separated - even permitting the meeting room to be placed on another level, for instance, so long as there is a direct connection with the circulation area.

From the foregoing examples it should be evident that satisfactory relationship drawings depend upon firm decisions as to how the library is to function. There is no room for equivocation. While they do not replace the narrative text, such drawings provide an easily understood outline of the various parts of the building. In some instances, the library administrator may not be able to resolve all of the conflicts in the intricate relationships. This should be clearly stated in the text so that solutions can be found during the early stages of architectural design.

B. FLOW CHARTS

In some areas of the program, flow charts which diagram the progress of certain operations can be most helpful in clarifying and expanding on the narrative text. These are especially useful where routines are somewhat involved or unfamiliar and require extensive description as in the case of circulation work or technical processes. A flow diagram such as that shown in Figure IV-4 shows how major components of a technical services operation might work out. (Please note that this is not presented as an ideal solution, but rather as an example used by one library to explain its own concept.)

Still another form of flow chart uses an actual diagramatic floor layout to illustrate the arrangement of people or order of work. Here, it will be advisable to use a 1/8" scale furniture template.[24] The danger of such drawings is that the staff might

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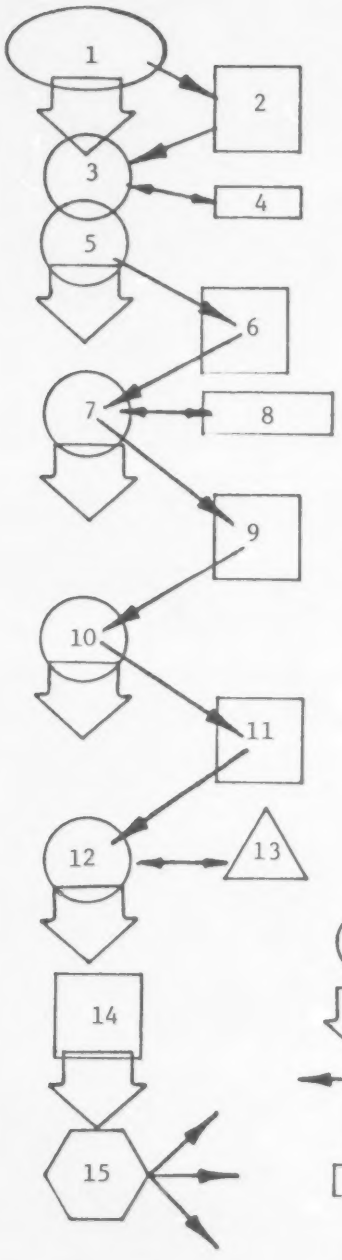
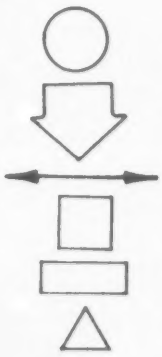
[24] Templates of this kind can be purchased from stores selling drafting supplies.

FIGURE IV-4

A FLOW CHART FOLLOWING THE PATH OF MATERIALS THROUGH
A HYPOTHETICAL CATALOG DEPARTMENT



1. Receiving
2. Holding Shelves/Booktrucks
3. Order Clerk
4. Order Files/Invoices, etc.
5. Invoicing and Sorting
6. Holding Shelves/Booktrucks
7. Catalogers (3)
8. Shelf List & Other Cataloging Tools
9. Holding Shelves/Booktrucks
10. Catalog Typist
11. Holding Shelves/Booktrucks
12. Processing Clerk
13. Processing & Mending Supplies
14. Holding Shelves/Booktrucks for Inspection/Revision
15. Sorting & Routing to Public Shelves



= Staffed Position(2)

= Work Flow

= Movement of Materials, etc.

= Holding

= Files and Tools

= Supplies

begin to develop preconceived notions of what the space should look like rather than how it should work. Figure IV-5 shows a diagrammatic arrangement of one library's shipping and receiving area.

C. TEXTUAL EXPLANATION

The text of the program should proceed in a logical manner from one topic to another. When explaining a typical operation, be sure to describe it in the order in which it is normally performed. Include information on items of furniture and equipment which are used and any special requirements - electrical outlets, sinks, etc. This kind of precise writing is not always easy and requires careful selection of words and arrangement of ideas and information. While still in draft form, try to have the program read critically by someone who is not familier with the library's internal operations. If the text is clear to them, chances are it will be to the architect.

D. SPECIAL REQUIREMENTS FOR THE REMODELING PROGRAM

The building program prepared for a remodeling and/or expansion project requires some additional information. Here, we are dealing with a particular structure which has specific dimensions. These should be supplied in the program wherever they are applicable. If the building is to be expanded, give some thought as to how the new addition can best relate to the present interior in terms of relationships and functions. The architect will give this serious consideration and it is important that the building program include the consequences of placing the addition at various points if alternatives exist. Diagrams can be used here to show what appear to be advantages or disadvantages to the various choices. Given this information, the architect will make his/her own studies and emerge with the most feasible arrangement. If, in the needs assessment period, engineering studies have been made, these should be attached to the program as appendices and referred to where appropriate in the text. This integration of all relevant information is a further function of the building program.

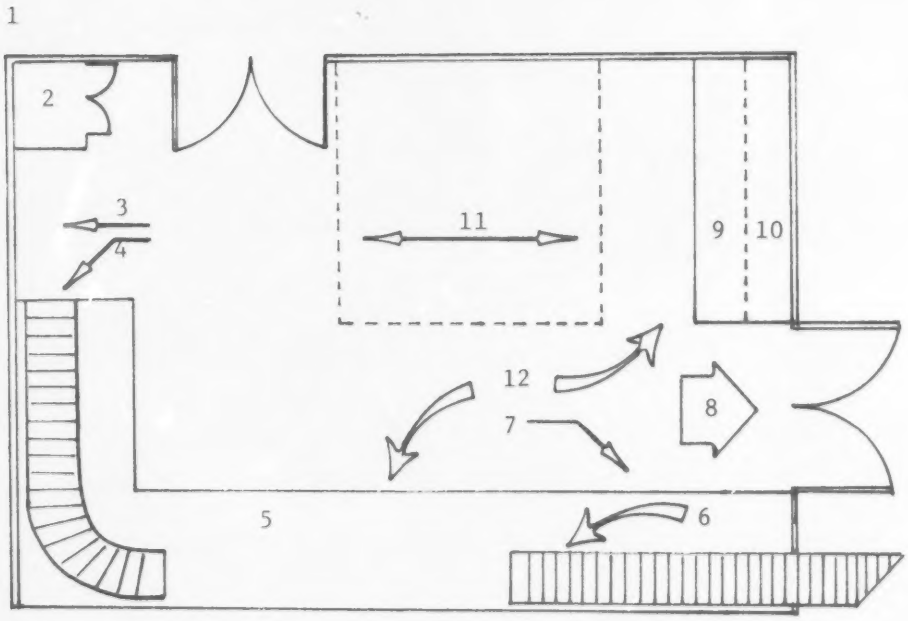
V. CONTENT OF THE BUILDING PROGRAM STATEMENT

The building program should begin with a well defined statement of the library's objectives, its place in the community, the nature of the library's public, and other data which will set the stage. If the site for the library has been chosen, it too should be described. Following the opening statement, the library program should proceed to consider each part of the building, beginning with the entrance. Reference should be made to the nature of use made of each section of the library, along with pertinent data on the collections, staffing, and operations. Public desks may deserve special treatment to assure full understanding of the jobs performed there and the need for electrical outlets and special equipment. Staff work areas should also be given separate attention. Where possible, estimates of space should be made

FIGURE IV-5

DIAGRAMATIC ARRANGEMENT OF SHIPPING AND RECEIVING AREA

1. Entrance from Delivery
2. Closet for Hand Trucks
3. Temporary Storage of Cartons Received
4. Possible Stationary Roller Conveyor
5. Unpacking of Boxes
6. Conveyor to Technical Services
7. Trash Compacter under Counter
8. Entrance to Technical Services
9. Mail Sorting and Packaging Counter
10. Mail Slots above Counter
11. Temporary Storage for Materials to be delivered by Van to Branches and Stations
12. Storage above and/or below Counters



for each well defined area. Usually, such estimates are itemized in terms of space for collections, staff, public, and special furniture and/or equipment. These should be summarized and totaled. Where space estimates are made, it is important to include reference to the formula used in making the determination, i.e.,"based on 10 volumes per square foot,"or"allowed 125 square feet per staff member." Such notes will save valuable time later on when questions are raised as to the basis for the estimates. Needless to say, all work sheets should be carefully indexed and filed for reference. When trying to decide whether a given point should be included or not, always put it into the text - if it is superfluous it can be ignored, but more often than not it will prove helpful.

The completed building program should provide a detailed profile of the library, written in language which the architect can interpret accurately. If problems surface which cannot be solved during the program preparation period, the architect should be so advised. In some instances, it may be necessary to describe alternative methods or operation where a choice cannot be made due to conditions beyond immediate control. However, too many alternatives will lead to confusion, loss of time, and unnecessary work on the part of all concerned, so these should be kept to a minimum.

Before leaving this brief explanation of content, one further word of caution: it is best not to supply the architect with floor plans of your own. While you may think you know exactly how the library should be planned, or how a particular area should be laid out, remember this is the architect's job. You will have ample opportunity to examine the architect's work and request revision where needed until a suitable arrangement is produced. To draw your own plan is to restrict the most valuable asset the architect can offer - namely, his or her talent for design concepts.

A. BASIC SPACE MEASUREMENTS

In general, it is the library administrator's responsibility to determine the quantity of materials, readers, staff, furniture, and equipment items which must go into the building, and the architect's responsibility to determine the amount of space required. However, since some preliminary estimate of the space required will be necessary, certain basic figures should be used consistently throughout the building program. It is recommended that the building program include a table containing the information such as that shown in Table IV-1.

B. THE INTRODUCTORY STATEMENT

The introductory statement should cover the following areas:

1. Nature and size of the community to be served.

2. Population characteristics - past, present, and anticipated.

TABLE IV-1*

TABLE OF FREQUENTLY USED MEASUREMENTS FOR LIBRARY SPACE PLANNING

LIBRARY MATERIALS:

SHELVING CAPACITY:	
Assuming 8 volumes per lineal foot of shelf:	
each 3 foot shelf will contain	24 Vols.
each single faced unit containing 7 shelves will hold	168 Vols.
each double faced unit containing 7 shelves will hold	236 Vols.
each single faced unit containing 5 shelves (60" shelving)	120 Vols.
each double faced unit containing 5 shelves (60" shelving)	240 Vols.
each single faced unit containing 3 shelves (42" or counter height shelving) will contain	72 Vols.
each double faced unit containing 3 shelves (42" or counter height shelving) will contain	144 Vols.
Reference books should be calculated at	5-7 Vols./Ft.
Bound periodicals should be calculated at	5-7 Vols./Ft.
Art books should be calculated at	6-7 Vols./Ft.
Disc recordings shelved vertically on shelves or in bins	6 discs/inch
16mm films, assorted sizes, stored on film shelving with 6 shelves per unit	100 films
VOLUMES PER SQ. FT. FOR TRADE BOOKS SHELVED ON DOUBLE FACED 90" STACK:	
Using 5 shelves (top and bottom shelves left vacant for expansion)	10 Vols./Sq.Ft.
Using all 14 shelves, each 2/3 full (average 16 vols./shelf)	15 Vols./Sq.Ft.
Using all 14 shelves and averaging 24 Vols. per shelf (maximum working capacity)	22 Vols./Sq.Ft.
NUMBER OF USABLE SHELVES PER SINGLE FACED SECTION OF 90" STACK:	
Trade books	7 shelves
Reference books	5-6 shelves

*Measurements given in this table are from various sources and are suggested only for approximating space requirements. Actual space will vary depending upon manufacturer and layout details.

TABLE IV-1 (cont.)

Bound periodicals	5-6 shelves
Art and oversized books	5-6 shelves

SPACE OCCUPIED BY SHELVING: (No allowance for transverse aisles)

Single faced section with 3 ft. aisle	12 Sq. Ft.
Double faced section with 3 ft. aisle	15 Sq. Ft.
Single faced section with 4 ft. aisle	15 Sq. Ft.
Double faced section with 4 ft. aisle	18 Sq. Ft.

SEATING:

At tables	25 Sq. Ft./seat
Informal (lounge)	40 Sq. Ft./seat
Reading or study carrel	25-30 Sq. Ft./seat
In conference room around table	25 Sq. Ft./seat
Multipurpose room or auditorium seating	6-10 Sq. Ft./seat
Audio Visual carrels (single seat carrel)	30-35 Sq. Ft./seat
Typing Carrel	30-35 Sq. Ft./seat
Microfilm reader	25-30 Sq. Ft./seat

FILES:
(Allowing space for extension of drawer plus user in front of file, but no aisle space on sides or back of file)

Lateral files (42" drawer)	21 Sq. Ft.
Letter file	8½ Sq. Ft./file
Legal file	10 Sq. Ft./file
Jumbo file (picture file)	12½ Sq. Ft./file
Microfilm file cabinet	14 Sq. Ft./file
Card Catalogs:	
One free standing 72-drawer catalog with 3 ft. aisle on either side and space for drawer extension and user in front	45 Sq. Ft.
Flat files for maps, etc., with drawer extension and aisle	35 Sq. Ft.
One 72 drawer card catalog without allowance for aisle space on either side but with room for drawer extension and user in front	21 Sq. Ft.

MISCELLANEOUS LIBRARY FURNITURE ITEMS:

Free standing dictionary and atlas stands with aisle space on 3 sides and user in front	25-32 Sq. Ft.
Index table (4' x 9") allowing 3 users per side-	140 Sq. Ft.

TABLE IV-1 (cont.)

MISCELLANEOUS LIBRARY FURNITURE ITEMS (cont.)

Disc Recording bins:	
Unit of 4 bins with aisle space in front only	25 Sq. Ft.
AV materials storage cabinet (18" deep x 39" wide) with drawer extension and user space in front	20 Sq. Ft.
OFFICES AND WORKROOMS:	
Public work stations (circulation, reference, etc.)	150 Sq. Ft./staff
Administrative Librarian's office	250+ Sq. Ft.
Professional staff	125-120 Sq. Ft./staff
Clerical and para-professional staff	100-125 Sq. Ft./staff
Secretary/reception	100 Sq. Ft. + 30 Sq. Ft. for each seat in reception area
Floor Load	150 lbs./Sq. Ft.
Compact Shelving	300 lbs./Sq. Ft.

3. Brief history of the library in the community.

4. The present library building's history, especially if the project includes the remodeling and/or expansion of the structure.

5. Description of the library's functions, services, collections, and special activities to be housed as a result of the project.

6. Planning concepts which have governed the building program such as:

   a. Dynamic programming to reach all elements of the community.

   b. Multimedia approach to library collections and services.

   c. Orientation toward library systems and network participation.

7. Special problems such as needs of the physically handicapped, security and building maintenance.

8. Characteristics of the atmosphere you want created in the building.

C. SUMMARY STATEMENT OF WHAT THE LIBRARY WILL HOUSE

A summary statement of what the library building must house provides the architect with an overview which may be quite helpful. This can be presented in concise form, noting that these figures will be reiterated and enlarged upon later in the text.

1. COLLECTIONS

a. Printed Materials:

(1) Initial number of volumes to be housed.

(2) Ultimate number of volumes to be housed for the next 10 to 20 years.

b. Itemization of the projections by type of printed materials:

(1) Adult - circulating.

(2) Adult - reference.

(3) Adult - current periodicals.

(4) Adult - periodical backfiles.

(5) Adult - documents, pamphlets, picture files, etc.

(6) Adult - any special collections to be shelved separately, such as local history.

(7) Children's - circulating.

(8) Children's - reference.

(9) Children's - current periodicals.

(10) Children's - periodicals backfiles.

(11) Children's - pamphlets, picture files and other materials.

c. Microform:

(1) Number of microform cabinets.

(2) Number of microform reader machines.

d. Audio Visual:

(1) Adult - films.

(2) Adult - recordings (disc).

(3) Adult - recordings (tape).

(4) Adult - framed pictures.

(5) Adult - video recordings (tape).

(6) Adult - video recordings (disc).

(7) Posters.

(8) Adult - other.

(9) Children's - films

(10) Children's - recordings (disc).

(11) Children's - recordings (tape).

(12) Children's framed pictures.

(13) Children's - posters.

(14) Children's - other.

e. Any other materials or special collections.

2. BASIC SERVICES TO BE PROVIDED

a. Describe basic circulation and reference services to be provided adults.

b. Describe basic circulation and reference services to be provided children.

c. Describe basic collections and services to be provided young adults.

3. NUMBER OF USERS TO BE SEATED

a. Adult seating:

(1) At tables.

(2) At carrels.

(3) Lounge or casual seating.

a. Adult seating: (cont.)

(4) Other.

b. Children's seating:

(1) At tables.

(2) At carrels.

(3) Lounge or casual seating.

(4) Other.

4. SPECIAL FEATURES FOR GROUPS

a. Group meeting rooms.

b. Story hour rooms.

c. Other.

5. GENERAL NATURE AND PURPOSE OF STAFF WORK AREAS

a. Circulation.

b. Administrative.

c. Technical Services.

d. Delivery.

e. Public Services.

f. Extensions.

g. Other.

C. DETAILED PRESENTATION OF DATA

Following the brief introduction, each of the areas within the library should be carefully described as you want it to function. Include the atmosphere you want to achieve, anticipated traffic flow, user loads at peak hours, and the need for communications devices. A logical approach can be pursued by beginning with the entrance of the library then moving through each of the public areas, followed by the staff work areas, etc. A detailed outline of topics to be treated in the building program is suggested in Appendix B.

D. MAINTENANCE AND SECURITY

Maintenance and security should be given attention throughout the building program statement. If necessary, a separate discussion of these factors may be included at some point in the program. Some of the more important factors are noted here.

1. MAINTENANCE

The building program statement should call for adequate and appropriate space for maintenance requirements. This includes custodial workrooms and storage areas conveniently related to the major floor spaces. These should be properly equipped with sinks, mop racks, vacuum storage, work benches and storage cupboards to maximize maintenance efforts. A work area opening outside is necessary if the custodian is to maintain the landscaping and walks, with floor space sufficient to house motorized equipment such as mowers, leaf rakes, and snow plows, as well as hand tools used in gardening. If the custodian is expected to make minor repairs to equipment and furniture, a small, properly equipped, workshop is necessary. Where the building program statement discusses wall and floor finishes, the maintenance aspect should be covered. Adequate power outlets, conveniently located for custodial cleaning equipment, must be requested in the program.

2. SECURITY

The building program statement should call attention to the need to secure the library building against normal risks, including fire, flood, vandalism, and breaking and entering. If the local crime rate is high, attention should be called to areas of particular weakness where the electronic surveillance equipment now available might be useful. This is particularly true for fire detection. The program should call for locks and hardware which are vandal resistant. Emergency security lighting must be used and exterior lighting incorporated into the landscaping to illuminate vulnerable entrances and windows.

If the library presently employs a collection security system, or is contemplating one in the foreseeable future, a full description should be in the program. The system's electrical requirements and the critical dimensions for locating the various components are important to the architect. Manufacturers of such equipment will gladly furnish full descriptions and detailed specification requirements.

Before preparing this part of the building program, the library administrator who is not well acquainted with current security problems and practices should acquire background by talking with people involved in security and by reading some of the growing literature on this subject. Discussions with local

police and fire officials, or others engaged in security occupations, will prove helpful. The library administrator must acquire an understanding of security in order to be aware of potential trouble spots as they show up in the plans and to evaluate any solutions which might be suggested. There is a growing literature in this field which can be most useful.[25]

E. INTERIOR DESIGN AND FURNITURE SELECTION.

The building program statement should call attention to the need for careful coordination of interior design and furniture selection with the design of the structure. The public is profoundly affected by the building environment which includes not only architectural details, but also the colors and textures of walls, floors, casework, furniture, and equipment, and their arrangement. Interior design will also be a major determinant in the continuing maintenance costs of the building.

Where special pieces of furniture or casework are involved, they should be described. The program should also call attention to areas which require particular types of floor or wall coverings, or other treatment. It is important to indicate the need for arranging furniture to promote the smooth flow of traffic through the library and to maximize supervision. For instance, a card catalog or cluster of carrels must not interfere with visual supervision of a lounge or table and chair area; seating should be conveniently related to shelving areas, but not interfere with the movement of book trucks.

The building program statement can also describe the quality of furniture desired in the building. While selection of color, style, and finishes are normally part of the on-going planning processes, some mention may be made of any deep seated desire or need. For instance, if the present furnishings are to be reused and matched by new items, an inventory and description of the present furniture is very desirable. On the other hand, if the library has always had light colored furniture and a complete change to dark finish is desired, this should be stated since it may have implications for design concepts.

Attention should also be called to the need for graphics and signs. This can be done systematically throughout the program wherever a sign or graphic would seem desirable. For instance, if the library is to have a special section, or sections, of shelving devoted to new books, then it would be entirely appropriate to request graphics and signing to call attention to this display feature.

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[25]One of the current publications of interest is: Peter S. Hopf, (ed). *Designers' Handbook of Building Security*. New York, McGraw-Hill Book Company, 1978.

While the interior design of the library, including the layout and selection of furnishings, should be left to experts, the building program statement can establish the general tone as well as point out specific requirements.

F. SITE CONSIDERATIONS

As noted at the beginning of this section, the library site, if known, should be described in the building program. Relevant information will probably have been gathered during the site selection process if location has been a consideration in preliminary planning. Chapter VI should be of some help in gathering and analyzing data of importance to the architect. This will include such information as the orientation of the site - especially as it may relate to north light. A brief description of the environment in which the library must fit should be enlightening. For instance, building design is apt to be somewhat different if the library is located on a corner in the residential district as compared to being situated in the downtown retail area. If there are important vistas to be preserved, note should be made of their relationship to the site. Similarly, if there are structures, busy highways, railroads or natural objects which tend to be eyesores, the building program should so state. Particular attention should be given any local historical importance attached to the site.

Of course you will want to indicate any shortcomings or peculiarities known about the site. While the architect will do a very thorough job in exploring the property, analyzing soil test data, etc., such information as may be factual should be included in the program to the degree that it may affect design. For instance, knowing that a storm drain or sewer line runs diagonally across the property may indicate that any attempt to build a basement may be very costly.

Still another set of conditions related to the site which should go into the program pertains to weather. If, for any reason, it is believed that the weather affects the library location somewhat differently than it does much of the community, these variances should be described. Winds, for instance, may play strange games during storms and blow stronger in some areas of the community than in others, thereby having the potemtial for blowing snow in the winter and dust in the summer. Such anomalies in themselves do not rule out the site but do indicate a special problem exists for the architect to resolve. Drainage is another aspect of the weather which becomes very important following sudden thaws or heavy rain storms. A location known to be subject to particularly high water during such occasions may remain an excellent site so long as the architect is aware that the ground which appears high and dry is deceptively low under certain conditions.

G. CONCLUDING THE BUILDING PROGRAM

The building program should be concluded with a summary chapter. Here, the basic points made during the program statement may be reiterated in very brief fashion. Even more important is the requirement for one or more summary tables. One of these should put together in a single table the total square footage figures arrived at for the various parts of the library. This will provide a total estimated space requirement for the entire building project. Supplementary tables can summarize the space requirements for collections, users, staff, group use, and other major elements. A final statement can relate the building program as the project schedule indicating it is ready for implementation.

VI. SUMMARY

A building program statement is essential for every building project whether it concerns remodeling, an addition, or a new structure. Each program must be a unique document since it describes the requirements of a particular library serving a community which is unlike any others in its exact needs. For further help, remember to consult the Bureau of Public and Cooperative Library Services publication, *The Building Program Statement for a Public Library Construction Project*.

The contents of the building program should describe the library needs of the community as they relate to the building project. After addressing general matters, the program can describe library requirements beginning at the entrance and proceeding through the public areas to staff workrooms and offices, ending with a discussion of miscellaneous items such as maintenance, security, interior design, and the selection of furnishings.

There is no short cut to a good building program and many hours must be spent in gathering data, analyzing it in terms of future library operations, making decisions as to which of the various alternative courses might best be followed, and then preparing the information in a useful form. The building program is the reference handbook for your building project - what is not covered may well be left out of the building itself.

CHAPTER V

THE DOLLARS AND CENTS OF BUILDING PROJECTS

To avoid the disastrous foundering of the project on the shoals of finance, the library administrator must understand the (1) basic cost factors involved in the library building project, (2) the major sources of funds, and (3) the implications held for the operating budget. Familiarity with these facts and the usual pro and con arguments will constitute a useful resource.

I. ESTIMATING THE PROJECT COST

Regardless of the size or complexity, certain basic items of expense will be incurred in building projects. Knowing that each of these must be provided for will prevent unpleasant surprises. While some costs may occur beyond those noted below, they are apt to be minor. The following items should be considered in arriving at an estimated project cost.

A. LAND ACQUISITION

If land must be purchased, obviously a price must be paid. Whether the price is negotiated or set by a court of law as a result of the jurisdiction's exercise of its right of eminent domain, a sum of money is eventually paid for the property. Sometimes such negotiations involve exchanges of property in addition to, or in lieu of, actual cash settlement. In addition to the purchase price, fees may be due for appraisals, legal work, etc. There is no way of predetermining the cost and it bears no particular ratio to the total project.

B. FEES

Usually, the costs of planning are those associated with the architect. However, in some cases where an existing structure is to be remodeled and/or expanded, various engineering specialists may be required to investigate and make recommendations. Their fees - usually on a per diem basis - will be negotiated at the time their services are contracted.

The architect's fees are discussed in some detail in Chapter VII. Professional fees are not subject to negotiation. The architect's fees will average about eight percent of the total project cost. However, in smaller jobs the fee will be greater - 10% or even more, while in very large projects of several million dollars the fee may be less than eight percent. Some architects are now working on a lump sum basis rather than a percentage fee.

Architects usually include as part of their services the

various mechanical, structural, and other engineering fees. However, if the client or owner demands more than the customary services in these areas, or requires specialists in such fields as acoustics, roof design, interior design, and graphics, additional fees will be involved.

When a library building consultant is retained, his or her fee may also be a part of the project cost. The fee will average between one percent and two percent of the total project cost except on very small projects where the fee may be a flat sum or a per diem. For the purposes of estimating, 1½% can be used as a rough average.

C. CONSTRUCTION

Construction usually involves a single contract with a general building contractor whose fee is included in the bid on the project. Usually, the contractor assumes that the site is clear of structures and ready to be built upon. If existing buildings must be razed first, the job is usually done under a separate contract with a building demolition or wrecking firm for a negotiated price. The cost will depend upon numerous factors, including the value of salvagable materials, the size and complexity of the structure(s) to be removed, the amount of dirt which must be moved to fill and compact areas where basements or other holes must be covered, etc.

The actual cost of construction is usually arrived at by the contractor bidding on a set of plans and specifications (discussed in detail in Chapter XI). Until the bids are received construction costs can only be estimated. Such estimates are based on the cost of other buildings of a comparable type and size currently under construction or recently completed in the community or nearby. Cost consulting engineers are also available and will, for a fee, make a cost estimate based on the actual plans and specifications. Such estimates are particularly helpful on larger projects or where the project cost is crucial for some reason.

Before plans and specifications are available, some estimates of cost are usually necessary so that financing can be arranged. Such figures can be arrived at by applying an estimated square foot cost to the total number of square feet to be constructed, adding a factor for interim cost escalation. Architects and building contractors are usually versed in providing a fairly accurate square foot estimate. Obviously, square foot costs depend upon the type of construction and materials used. Therefore, the figure must be arrived at separately for each project. Because the construction cost estimate places a ceiling on the project, it is imperative that the data on which the estimate is made is accurate. One of the most frequent mistakes is caused by failure to convert net square footage into gross square footage. The result is funding at a level sufficient only for a building 65% to 75% of the size desired. Sometimes officials are frightened by

cost estimates and try to rationalize lower figures. Such attempts are unrealistic and will lead to difficulty soomer or later.

D. FURNITURE AND EQUIPMENT

Since the money to purchase furniture and equipment may come from the same source as for construction, it must be included. Unfortunately, there is no useful formula for accurately determining the percentage of the total project costs which should be allocated for this purpose. The cost of furnishing and equipping libraries has, so far, varied too much to be formulized as a percentage of total cost or as a percentage of square foot costs. To some extent, the amount depends upon how much of the existing furniture and equipment can be used in the new building. The quality of the items to be purchased and the discount which the library project can command are further variables which may affect the total by as much as 50%. Again, the library administrator is advised to consult recently completed library projects. In addition, some help may be obtained on specific items from the Bureau of Public and Cooperative Library Services, Wisconsin Division for Library Service, and from the Library Technology Reports office at the American Library Association. A figure in the range of 15% to 25% of project costs can be used for initial estimates.

Library administrators are cautioned not to be misled by the annual cost figures printed each year in the issue of *Library Journal* devoted to library architecture (usually the December 1 number). These costs per square foot for construction, furniture and equipment, etc., are averages for a large number of buildings ranging in size from branches to headquarters structures already completed at the lower costs of previous years. In one year, for instance, the equipment costs ran from 2.0% of the total project costs to 31.5%. Similarly, the cost per square foot for furnishings ranged in that particular year from $2.14 to $11.27. Until a satisfactory formula can be devised and tested, it would seem that the library administrator must fall back on estimating the quantity of bookstack which will be needed, the number of card catalog units required, and the number of readers to be seated. With this information in hand, estimates can be requested from several furniture and equipment manufacturers and some sort of balance struck. To this figure must be added the costs of any special equipment such as projectors, display cabinets, atlas and dictionary stands, microform readers and cabinets, filing cabinets, office furniture and equipment, etc., Failure to arrive at a sound figure may result in the library being under furnished and equipped when completed.

E. MOVING EXPENSES

The cost of moving will depend upon the amount of materials and furniture which must be moved and the distance involved. If

the project is simply a remodeling job or a small addition, moving is often accomplished by the staff with a few extra hours of help from pages or other casual labor. Even fairly sizable moves have been handled by volunteer groups such as service clubs. However, if the move is to be fairly extensive and require the assistance of a professional moving firm, the library administrator will need to have an estimate made as to the probable cost so that an appropriate figure can be included in the project budget. Knowing the location of the new facility, a moving company can estimate the cost with some accuracy, even though the actual move is sometime in the future. An alternative, of course, is to omit the moving costs from the project budget and absorb them as a part of the library's operating budget for the year in which the move occurs. While the costs of moving are usually not great as compared to other project items, they, nonetheless, have to be covered: again preplanning is advisable.

F. THE TOTAL ESTIMATED PROJECT COST

The total estimated project cost, then, will be the sum of (1) site acquisition including possible demolition, (2) professional fees, (3) construction, and (4) furniture and equipment, and possibly (5) moving. The cost estimate should be carefully prepared and fully documented before being made public. Once the estimated cost has been announced, it will be difficult to modify it without losing credibility in the eyes of public and officials alike.

II. PROJECT FUNDING

Library building projects may be funded from a variety of sources. Oftentimes, more than one source may be used and all kinds of combinations are possible. The important thing is to choose the source or sources which provide the amount of money needed at the lowest cost. This will vary from situation to situation and from time to time. The library administrator should become thoroughly conversant with these sources and the pros and cons of their use. Assistance can also be requested from the Bureau of Public and Cooperative Library Services; bankers may offer further advice.

A. BOND ISSUES

Probably the most common method of financing library building projects is known as the Bond Issue. This may, at the discretion of the local government, require a referendum. The governmental agency has the power to sell bonds up to a particular amount with an interest rate not to exceed a specified sum. The preparation of the bonds and their sale is a sophisticated art and special bond counsel is often needed by the local jurisdiction to assure their sale at the best possible terms. Chapter 67 of the *Wisconsin Statutes* provides explicit information on bonding for all local jurisdictions.

B. FEDERAL AND STATE GRANTS

At the present time the State of Wisconsin has made no provision for supplying state financed construction funds for libraries. However, the Division for Library Services does administer federal funds provided under the provisions of Title II of the Federal Library Services and Construction Act (LSCA) whenever these are available.

In spite of the failure of Congress and the Administration to fund Title II of LSCA currently, libraries are eligible to receive funds from other federal sources, most notably from the Federal Revenue Sharing Program. To tap this source, the library must vie with other segments in the local governmental framework. Some jurisdictions have planned the spending of such monies in accordance with certain long range goals, while others have used the money for current operations, or for meeting special needs as they occur.

To tap this potentially helpful source, the library administrator must be thoroughly conversant with the amounts of money received each year and the policies governing its use in the local jurisdiction. If a long range plan is involved, then the library must seek inclusion of the library building project and urge it as a high priority item. On the other hand, if funds are distributed annually on a needs basis, the library will have to prove its case for its share. Whether or not the entire project can be funded from this source depends upon many variables, including the willingness of officials to commit revenues for several years to a single project. Where only a portion of the project costs can be defrayed from this source, the library must seek additional funds elsewhere. Whatever revenue sharing funds are used will reduce the total to be funded from other sources.

Other federal programs have been used here and there across the country to finance library building projects wholly or in part. However, these are not direct aid programs and they require some expertise to qualify for funding. Nonetheless, for the library wishing to explore the total range of funding sources, it is necessary to know that such programs do exist. For instance, libraries in communities with active Urban Development Agencies may qualify for funds through the Department of Housing and Urban Development, as was done for the Southwest Wisconsin Library System headquarters building at Fennimore; contact the HUD office in your region for full information. Federal programs are constantly changing and new funding sources come and go.

One of the newer federal programs which is being used in some communities is the Public Works Employment Act which provides a limited amount of funds for towns and cities having higher than average rates of unemployment and specific plans for public facilities. Competition for the available funds has been keen

and the life of the program will probably depend upon the future rate of employment. The alert library administrator, with the help of the Division for Library Services, should keep abreast of these and other opportunities and their varied requirements.

C. PAY-AS-YOU-GO OR STAGED FINANCING

The concept of pay-as-you-go or staged financing describes no particular plan for funding, but instead covers those procedures which permit a community to purchase something over a short span of years from current revenue. Sometimes a particular source of revenue, or part of the tax rate, is earmarked for this purpose. In the case of a library building project, for instance, the first year's revenue might be used to purchase the site. In the second year, fees would be paid to the architect and others for the planning of the building. The construction might then be scheduled to fall into two different fiscal years so that the total project cost could be spread over as much as four years. Depending upon the local tax base and the cost of the project, this method of funding can be attractive. While the immediate burden on the taxpayer may be somewhat greater than if the project costs are spread over a longer period, the fact that no interest charges are required is a definite plus. Where possible, this source should be carefully explored, especially for smaller projects where costs are limited. The method can also be used to finance the preliminary stages of a project using funds from bonds or other sources for actual construction.

D. GIFTS AND BEQUESTS

Gifts and bequests from local citizens or public minded corporations or businesses have financed library building projects in some communities. However, as library building requirements grow and the cost of library construction continues to increase, fewer libraries can rely on gifts and bequests for new buildings. This does not preclude the occasional exception nor the use of such funds as part of the total. To raise money in this form requires excellent contacts, patience, careful workmanship, and great care to avoid the pitfalls of money given with strings attached that unduly limit the library's prerogative in their use.

Even though a major gift or bequest may not be forthcoming, there should be room in every library's financial structure to permit the accumulation and use of smaller donations. Often these come in very handy to purchase items which would otherwise have to be omitted. Sometimes works of art or specific items of furnishings are made the subject of a campaign for gifts. Friends of Libraries groups often spearhead a community wide effort to secure public donations. Except where there is conclusive evidence that private funding will be available, time should not be lost in attempting to tap this as a major source for most library building projects.

E. PUBLIC SUBSCRIPTION AND DONATIONS

When construction costs were lower and library building requirements simpler, an occasional building could be funded from public subscription and donations. The idea that a free-will donation of a few dollars per community resident sometimes seems logical and a simple way to raise funds. Unfortunately, experience shows otherwise. Except for the very smallest projects, this must be considered a difficult and impractical method. Churches and charitable organizations which often depend upon just such sources can testify to the uncertainty and hardships of this course of action. Again, Friends of Library groups can be used to help solicit money for special aspects of the building program.

III. BUDGETARY IMPLICATIONS

A building project carries definite financial implications not only in terms of original price, but also for long term operating costs. Too often these implications are not carefully thought through, resulting in some very unpleasant surprises later on. The library administrator must make a continuing study of the impact a building project is apt to have on the operating budget, beginning with information in the building program which relates to changes in personnel requirements, operations, services, etc. Such preliminary figures will need to be revised after architectural work has been completed. At this point, the library administrator should be able to determine with a fair degree of accuracy the probable operating costs. The information supplied in this section is to help in this process.

A. FIRST COSTS

Consideration has already been given to the various factors which constitute the cost of a building project and the methods by which they can be financed. The idea of first costs has also been introduced and can be defined as the amount of money spent to produce the finished library building, furnished, equipped, and ready to open. Sometimes this is the only cost given any attention. One architect has said of this:

> . . . . *There is a terrible tendency to design a building on the basis of "first cost" and not to look at operating costs, maintenance costs, and the cost to change. The various alternative solutions can cost more initially, but may cost less to run; or alternate systems could cost less initially and more to run. All of these factors have to be weighed and someone has to make a judgment.*
>
> *I think it is the professional's responsibility to present the facts and make a recommendation which he feels he would like those people who are in the decision-making*

role to accept. If they don't agree with him, they must give him direction.[26]

Even more important, however, are the continuing operating and maintenance costs which must be budgeted for from the date of opening on into the future. In connection with college and university library buildings, Keyes Metcalf has identified seven factors which will increase costs and then notes that any planning which will reduce these costs is well worth the price paid.[27] This list is quite relevant and deserves review in light of your own building program and plans, though space does not permit inclusion here.

Every effort should be made to avoid the first cost syndrome which makes this the sole determinant when alternatives are under consideration. Long term values are at least equally important and it is the library administrator's responsibility to call this to the attention of the governing body when decisions must be made.

B. FACTORS WHICH WILL BE REFLECTED IN OPERATING COSTS

Because of the inefficiencies of older buildings, there is an inclination sometimes to assume that a new or remodeled building will be less expensive to operate. This is seldom true. If for no other reason, the new or remodeled building almost always has a significantly increased area to be lighted, cooled, or heated. Trying to foresee all of these factors and to predict their budgetary implications is the library administrator's responsibility. It is also necessary to balance increased budgetary requirements against the community's future financial resources. A closer look at several major factors seems in order.

1. PERSONNEL

Will the new library building require more staff? Many times the plans are said to provide a layout which can be operated by the staff presently employed. Seldom is this really true. For one thing, more area must usually be supervised, and for another, circulation, reference work, and other aspects of meeting user needs usually climb rather steeply in new or remodeled buildings. Gains of 25% to 75% can be expected in most situations. The library attracts new borrowers and current users make greater use of the facility. Assuming that the present staff is working at or near capacity, there is little room to absorb an increased workload of this size. Therefore, additional staff will be required.

Another factor which determines personnel needs is the

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[26]Holt, *op. cit.*, pp. 64.

[27]Metcalf, *op. cit.*, pp. 33-35

number of stations to be provided in the new or remodeled building. If these represent an increase over those presently manned, you can be sure that more staff will be needed. Depending upon the scheduling techniques used, the amount of off-desk assignments, etc., given each employee, from two to three staff members will be required for operating each station 50 to 60 hours per week.

Often the need for additional custodial help is also overlooked. Standards seem to indicate that today's buildings require one custodian for every 10,000 to 15,000 square feet of building. The exact amount of space which can be adequately cleaned and maintained by one individual will depend both on the standards which must be met and other factors; if the custodian must clean large areas of glass, maintain expanses of hard surfaced flooring, keep the furnishings in an unfiltered air conditioned building dust free, and do gardening, the custodian will be hard pressed to meet the 10,000 square foot requirement. For libraries presently relying on part time help or having custodial duties performed by casual labor such as pages, the need for more custodial effort will come as a special problem. Where custodial service contracts are used, the complexity of the arrangements, as well as the cost, is bound to rise.

2. UTILITIES.

Few things are apt to shock those involved in opening a new building more severely than the sudden increase in utility rates. Even if the square footage has not been increased significantly, higher standards of lighting and/or full scale air conditioning will cause the utility bill to soar. Estimates of probable utility costs can be made by the consulting engineers and/or the utility companies themselves. Such estimates can be used to predict the utility costs and incorporated into the operating budget until actual figures are available. Because figures for any one month may be substantially altered by unique weather conditions which affect both lighting and air conditioning requirements, dependable averages cannot be calculated until several years have passed.

3. SUPPLIES

Custodial supplies are also apt to cost more for a new building. In the first place, there are more items to be cleaned and maintained; various types of coverings have special requirements. Other supplies may also increase in cost. New letterhead, for instance, bearing the new address or an image of the new library will probably be desired. Other forms will have to be printed if the address has been changed. Temporary alterations by rubber stamps can be made if the quantity of stock on hand is not too large.

Increased usage, a natural attribute of new buildings, means greater wear and tear on the collections which, in turn, will result in more books being sent for repairs, rebinding, or replacement. Although they may seem small, the supplies required for collection maintenance must, nevertheless, be added to the new budget.

4. COLLECTIONS

The demand for new materials is also likely to increase and this must be reflected in the budget for library materials. With more shelf space, the library can now add all of the materials its budget will allow and that the community can legitimately use. Current periodical budgets often increase because of more space and new interests are shown by the people attracted to the library. At the same time, reference work makes the development of backfiles, either by way of microform or hard copy, more desirable than before.

Libraries which have previously maintained limited audio visual collections find the demand skyrocketing under the influence of new facilities. This can be a major addition to the budget, and the audio visual acquisitions program should be carefully planned to accelerate over a period of three to five years to space out these costs.

5. INSURANCE.

One of the items most likely to be affected is the library's insurance. While improved conditions may result in a lowering of rates, this can be more than offset by the increased value of the building and its furnishings. The best advice on this subject, obviously, will come from a qualified insurance agent who can provide some advance estimates based on plans, building costs, etc.

6. EQUIPMENT RENTAL

Many libraries use the occasion of moving into a new or remodeled building to rent various items of equipment which previously could not be used because of lack of space and electrical capacity. This may vary from copy machines to circulation charging equipment. The costs of these items can be ascertained from the supplier and projected in the budget.

7. FURNITURE AND EQUIPMENT

Quite often the project budget will not fund all of the furniture and equipment needed by the library. Therefore, certain items are set aside for purchase out of the annual operating funds. This may encumber only the first year's bud-

get. When funds for furniture grow tight in the original project budget, there is a tendency to make do with marginal pieces of old furniture and equipment. It is only a question of time until these items must be replaced by new ones. For the first several years, the requirements for furniture and equipment may add significantly to the annual operating budget. This will be in addition to sums normally budgeted for replacement and/or purchase of office equipment.

8. CONTRACTS AND MAINTENANCE AGREEMENTS

For a period of time the library will enjoy free maintenance, repair, and replacement of equipment. However, these warranties will begin to expire after a period of time and the library will either have to add their continuing costs into the budget or find other means of maintenance. Once out of warranty, equipment often seems prone to break down and repair and maintenance agreements then seem particularly worthwhile. Without such insurance the library may find itself faced with large bills which must be met in order to provide such essentials as air conditioning, elevator service, etc. The various manufacturers are usually able to provide information on the costs of continued maintenance past the warranty period. Working with the architect well in advance of the opening of the building such figures should be gathered and incorporated into the budget.

C. PREPARING FOR COST IMPLICATIONS

Even a cursory review of this section should convince the reader that operating costs are almost sure to rise - and rather steeply in many instances - when the new or remodeled building is in operation. After determining the probable operating costs, it will be time to translate the total operating budget projected for the new building into revenue requirements. How this will be done will depend upon practices in the local community. If the library is financed directly by a specific tax rate, then the increase in tax rate on the probable assessed valuation base will be appropriate. If the library is financed by a direct appropriation, then the implication of either a hike in the overall picture or the loss of funds for other purposes is clear. If a ceiling has been placed on library expenditures regardless of need, then the library administrator will be faced with serious decisions, and possibly an austerity program until the financial resources can match the expenditure requirements. This is not an unfamiliar road for library administrators, but one which the new building may well aggravate. Aware that public criticism is likely to be bitter if the new building cannot be fully operational when it opens, public officials, forewarned of impending fiscal need, should move positively to meet budgetary requirements.

IV. LEGAL AUTHORITY FOR CONSTRUCTING A LIBRARY BUILDING

The vesting of legal authority for purchasing, acquiring and/or erecting a library building is well covered in the *Wisconsin Statutes*, especially in Chapter 43, and quite specifically in section 43.62. Further provisions will be found in section 66.29 for municipalities. Those concerned with library building projects may also wish to be familiar with Chapter 67, "Municipal Borrowing and Municipal Bonds," which covers the subject of funding by bond issues and other means. Where questions arise over the nature or extent of authority and responsibility, assistance should be sought through the local city or county attorney's office; the Bureau of Public and Cooperative Library Service staff can also provide guidance.

V. SUMMARY

Library administrators contemplating a library building project must be fully aware of the various cost factors, such as (1) land acquisition, (2) fees, (3) construction, (4) furniture and equipment, and (5) moving, which combine to make the total project cost which has to be financed. There are various funding sources, each with its advantages and disadvantages. Before a choice can be made, the library administrator will need to become informed about each of these and relate them to the particular circumstances of the local community and its traditional pattern of financing public buildings. Assistance is normally available through local governmental finance officers and the Division for Library Services. Money is a commodity, and both the market and the regulations which govern its availability fluctuate. For this reason, the library administrator has a special obligation to keep all facets under continuous review until a final decision is made by the responsible governing body.

CHAPTER VI

SITE CONSIDERATIONS

The relationship of site to the successful operation of a public library has long been the subject of study. The problem takes on new meaning for the library administrator faced with critically analyzing various possible locations for a new library building. Each site must be appraised in terms of its present qualifications and those it may possess in 10 or 20 years. Oftentimes, exponents for this or that location tend to cloud the real issues with extraneous observations which are not relevant and impair good judgment. The purpose of this chapter is to indicate some of the basic criteria which should be considered and to suggest ways in which sites can be compared.

I. CRITERIA FOR LOCATING A PUBLIC LIBRARY BUILDING

The library building, whether a main library or a branch, should be located where it can best meet its objective of providing the materials and services to the greatest number of people of all ages at the lowest operating cost. In this regard, the library is no different than a large volume retail store where volume of sales determines the unit cost of doing business. For most communities, the location which most closely qualifies is a site at the downtown crossroads. Whether on foot, using public transportation, or traveling by automobile, the user will normally favor the most easily accessible location which is exactly why most downtown business centers are situated where they are in relationship to residential areas.

Probably no one person has spent more time and effort in trying to determine effective library locations than the late Joseph L. Wheeler. In 1958, his research was first published,[28] followed in 1967 by still further information in the form of a supplement to the original report.[29] The librarian faced with a site decision should be thoroughly familiar with the evidence and conclusions reached in these two studies. In Wheeler's own words, ". . . the most effective location for a public library in the mid-1950's was in the heart of the downtown pedestrian crowd." There was considerable evidence, and numerous cases were cited, to attest to the validity of this conviction.[30]

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[28] Joseph L. Wheeler, *The Effective Location of Public Library Buildings*, University of Illinois Graduate School of Library Science, Occasional Paper No. 52, (July 1958).

[29] Joseph L. Wheeler, *A Reconsideration of the Strategic Location for Public Library Buildings*, University of Illinois Graduate School of Library Science, Occasional Paper No. 84, (July 1967).

[30] *Ibid*, p. 1.

In his 1967 report, Dr. Wheeler accumulated additional data, updated the record of experiences of libraries across the country, and considered changes which had taken place in our society and in libraries. Still his ultimate conclusion remained, "The basic factors. . . lead to the inevitable conclusion that the main public library building in a city should be placed in, or kept in, or rebuilt in, the heart of the downtown business and office district."[31] The testimony, as well as the facts accumulated by Dr. Wheeler, will be of great value to the librarian who must assist others in evaluating a variety of sites.

In 1976 a symposium of library experts addressed the question of site selection - the first major contribution to the subject since the Wheeler studies.[32] While each of the nine contributors to the symposium expressed different approaches to site selection, on the whole, findings of Wheeler appear to be reinforced by experience and there seems to be little likelihood that new library technology or other foreseeable factors will change the basic premises. Convenient access to vehicular and pedestrian traffic, adequate off-street parking, sufficient land for development, visibility to potential users, and a location between the residential area and the downtown shopping and business area, continue to be the dominant criteria for successful library locations.

The *Wisconsin Public Library System Standards* states in the introduction to the Physical Facilities section: "The library should be located where the citizens can use it in the course of daily living." This is followed by Principle A-4: "Each public library should be in a location which attracts numbers of people in the course of their daily activities. Attention should be given pedestrian and automobile traffic, and to mass transit where available."[33]

II. PARKING

In many communities, advocates of this or that site will base their claims upon the ready availability of parking, citing the decay of the downtown area, the growth of shopping centers on the city's perimeter, and the manifold use of the automobile as justification. Space does not permit a full review of this subject, but the library administrator is referred to the previous sources which contain a good deal of evidence and testimony on both parking and the downtown vs. shopping center controversy.

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[31] *loc. cit.*, p. 12.

[32] *Library Space Planning*, LJ Special Report #1, *Library Journal*, R. R. Bowker Co., N.Y., 1976.

[33] *Wisconsin Public Library System Standards*, op. cit., pp. 46-47.

There can be little doubt that readily available off-street parking is a healthy attribute. In fact, the *Wisconsin Public Library System Standards* state that" "Each public library should have adequate parking on or near the library site."[34] However, acres of parking will not, in itself, bring people to the library. In many preferable locations the parking problem can be partially solved through arrangements with nearby parking lots and by designing the library building to permit a limited amount of on-site parking.

Where land adjacent to the best library site is not available for parking, some libraries have created parking as part of the building project. Parking can be created beneath the building and/or on top. While some additional expense is involved, this alternative may prove more economical than purchasing expensive property for parking and more dependable than agreements with neighboring land owners for joint-use privileges.

The library administrator faced with this problem may wish to survey the experience of libraries in communities of a similar size and nature. Such a study of library parking should include visits and personal observation of as many of the sites as possible.

III. COMMONLY SUGGESTED SITES

An extensive discussion of all possible sites is not feasible here. However, two or three of those most frequently suggested as alternatives to the often more expensive downtown location deserve some mention.

A. THE PARK

It seems inevitable in many communities that a group of citizens will recommend that the new library building be placed in a park. Perhaps there is an unconscious desire to see the grounds used or beautified. Certainly, it is not because this is where the greatest number of people are to be found. However, in spite of its generally poor characteristics, occasionally one may find that a library situated in a park seems well used. Two questions should then be answered: (1) Is the site, because of its relationship to neighboring facilities and traffic arteries, a good one in spite of it's being a park as well? (2) Even though it seems well patronized, would the potential for use be still greater in another location?

While land for the library might be free or very economically priced in a park, this should never be a consideration. The park location brings with it other problems which do merit concern. In many communities, the park is some distance from

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[34] *loc. cit.*, p. 48.

the main streets and not only shields the library building - its own best advertisement - from public view, but also surrounds it with lonely space. Structures in such locations are often more vulnerable to vandalism. The argument that the library should be in quiet surroundings has never had validity. Such quiet as may be required for users can best be attained through architectural design rather than insulation in a park. Besides, those who normally use a park do so for social gatherings and physical recreation - purposes quite different from those which bring people to the library. Further, in some communities, parks have gained a bad reputation for sheltering people bent on some form of crime. This has caused many people to be fearful of parks, especially after dark. The library must avoid sharing such a stigma.

B. THE CIVIC, COMMUNITY, OR CULTURAL CENTER

In recent decades there has been increasing interest in grouping civic, community, and/or cultural buildings. Since the library user is likely to be motivated by reasons quite different from those which compel individuals to use a governmental center, the relationships and advantages are often tenuous. An exception occurs when the library is a part of a community center building in which other people-oriented services are provided. This seems particularly true in communities or neighborhoods with strong ethnic or disadvantaged populations which have a special relationship with government agencies such as social services, welfare, health services, legal aid services, child care, social security, and employment. Smaller communities or neighborhoods grouping these services with the library often increase the potential for library use while sharing facilities with some savings.

Among the libraries which have become a part of a civic community, or cultural center, some have failed to predetermine where in that center the library building will be placed. The criteria of accessibility and visibility remain just as true here as in any other phase of site selection. Because the library is apt to be open at hours when the rest of the center's buildings are closed to the public, it must not be relegated to a relatively obscure location. If the library is to share a building with other functions, the location of the area to be occupied is most important. The library needs maximum exposure to traffic at all times.

C. THE SCHOOL GROUNDS

Looking for ways to save money and to coordinate land use, pressure is sometimes exerted to locate the library building on school property. The advocates of such locations usually note the ready availability of such grounds and the fact that such a site will improve the library's use by children. Proponents of school ground locations must be advised that unless the site meets the basic criteria for a good location, it has several flaws: (1)

school libraries, more often known now as Instructional Media Centers, are seldom housed in separate buildings; rather they are a central and intrinsic part of the classroom in the open school concept; making such spaces accessible to adults during school hours is difficult and creates major security problems during non-school hours, (2) joint use of a library on school grounds for public and school purposes unduly complicates scheduling, management, access, insurance, maintenance, and other aspects of library organization and administration, (3) there is considerable evidence that adults prefer not to use a public library located on school grounds, perhaps for psychological reasons, (4) the library building, isolated from the normal flow of traffic will suffer loss of use, (5) children comprise only one of several groups served by the library, (6) since most children must either be within walking distance of their library, ride bicycles, or depend upon adults for transportation, the proximity of the library to the major arteries of pedestrian and vehicular traffic will largely determine use by children as well as adults, and (7) the school grounds often have additional drawbacks such as those mentioned for parks.

Where conditions appear to justify placing the community library on the school grounds, the site selected should provide maximum visibility for the building and easy access for adults, including parking. If possible, the building should be located on the perimeter of the grounds - perhaps at or near a corner convenient to motorists. The amount of land should be adequate for the structure and parking. Sufficient distance should separate the library from the school and playgrounds to provide a buffer.

IV. SITE SURVEY

The selection of a new library location is often an emotional rather than intellectual exercise. The public takes sides quickly without much thought beyond their own judgments. Since land is to be bought and sold, some may have interests which are less than impersonal. Those with special interests quickly sieze upon every opportunity to advocate the site most favorable to them, regardless of the consequences to the library and its users for the next several decades. Faced with this emotional outburst, library administrators and library Boards are often tempted to accept whichever compromise seems to satisfy the loudest and most powerful voices. Such a temptation should be resisted. Instead, a careful study should be made of the proposed locations and a brief report prepared giving the facts needed for a rational decision.

A. THE LIBRARY'S OBJECTIVES

The first step is to indicate that the library's objectives require a site which will maximize the library's ability to

serve the potential users of all ages from every corner of the community. Because the community has a sizable investment in the library's collections, staff, and equipment, it is to the community's advantage to see that the library is located where this investment will yield the greatest return. The problem is not unlike that facing retail merchants who must locate where they can expect to do the most business. In simple language, the larger the number of users attracted to the library, the greater the number of transactions and the lower the per unit cost of operation. The library building will probably cost about the same number of dollars regardless of where it is placed; no good merchant would locate an expensive structure where it will attract only a fraction of the customers available at another site just because property was cheaper.

B. SIZE OF THE PARCEL

An obvious criteria is the size of the parcel. Is it large enough to accommodate the new library building and such landscaping and off-street parking as may be required? This presumes that preliminary studies have established the general space requirements. If the site is too small, the building may have to be multistoried, adding to both the cost of construction and operation. Sometimes sites are irregular in shape and necessitate the design of a building with a special configuration which makes for an inefficient operation. While the site may be large enough for the initial building, what happens when the library has to add a wing at some future date? These questions, and others like them should be raised and answered.

C. AVAILABILITY OF THE SITE

Some communities have waged long battles over a new library location only to learn too late that one or another of the favored sites was really not available for all practical purposes. Although jurisdictions have the "right of eminent domain"[35] and can condemn property for public use, including the construction of public library buildings, communities use this power very sparingly, preferring to avoid potential conflict and legal costs. While the library site selection awaits decision, many factors may affect availability of a given location. Realty transactions, for instance, may be occurring behind the scenes which effectively remove key parcels from the market. Property is sometimes subject to lengthy litigation which clouds titles and makes purchase difficult, particularly when they are a part of an estate undergoing probate. Land bordering highways may be partially committed to major improvements in accordance with a county, state, or federal highway master plan, and thereby changed in character or reduced

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[35] *Wisconsin Statutes*, Chapter 32.02.

in size. Utility easements sometimes split otherwise desirable parcels into unusable fragments. The list of things which can affect the avilability of a given site is almost endless. Therefore, it is a proper subject for quiet but thorough investigation.

D. VALUE OF THE LAND

The relative cost of one site compared to another is often used as the major reason for forcing a library to accept a secondary location. In many cases, land values are voiced which have little basis in fact. When the debate reaches this point, the library may be well advised to call for the services of a professional appraiser. Using the same accepted techniques in appraising property for business and industry, the appraiser will fully investigate the properties under consideration for a relatively small fee. The identity of the respective owners will be determined and, by a variety of methods, a value established for each parcel. This can be done confidentially, of course. Sometimes such investigations uncover some unexpected quirks in ownership, lot size, and configuration. If an appraiser is not used, then the usual basis for comparison is the assessed valuation attached to each parcel for taxing purposes. Presumably, such assessments represent a consistent percentage of the actual value - though not necessarily reflecting the price a given owner will accept for the property. Obviously, this is an extremely sensitive area which requires expertise, finesse, and diplomacy.

In evaluating land costs it is often useful to calculate this as a percentage of the total project cost. This may provide some surprising results. Libraries have been known to purchase land equal to half the value of the library building in order to guarantee good access for the public in the years ahead. Because land values are largely determined by local factors, there is no way of establishing an accepted norm or standard. In reviewing sums paid by libraries throughout the nation in recent years for sites - and with no regard as to whether the site was advantageous or not - the cost of land ranges from 10% to 25% of the project costs, with a few examples above and below that scale. There has been a feeling among experienced library administrators that it is better to give preference to a good site rather than to a larger building, if a choice has to be made between the two.

In creating its regulations for the distribution of LSCA Title II construction funds, the New York State Library provided in 1966 that the annual return from the capital investment and from annual library budgets is controlled to a large degree by good or poor location of the library building. Therefore, a project for a new building for direct reader service will be favored if the site chosen is within two or three blocks of

the busiest pedestrian intersection of the downtown area ". . . The library site should, therefore, cost or be worth a fourth to a third as much as the building. . . . A project will be disapproved if the site is not central."[36]

E. ORIENTATION OF THE SITE

Occasionally, strong arguments will be advanced for one or another location because of its orientation. This is less a factor now than when buildings had to depend upon the sun for daytime lighting and open windows for ventilation. Even though there is increasing concern over energy conservation, modern architecture and the use of contemporary building materials make energy saving more a matter of good design and engineering than site orientation. The potential of solar energy is increased if the site is not shaded by adjacent structures or trees and can maximize exposure of energy panels to the sun. Prevailing winds and blowing snow also must be considered.

F. ZONING OF THE SITE

It is important to determine the type of zone applicable to the various sites. The local planning office should have no difficulty in giving you this information along with the definition of each zone and the restrictions it carries. Normally, the governing agency can adjust the zoning as necessary where a public library building is concerned. However, there is apt to be less difficulty if the area is already in an appropriate zone.

G. TOPOGRAPHY AND SHAPE OF THE SITE.

The topography and shape of each site constitutes still another criteria to be examined. Usually, level sites are preferred. Though parcels of land which have distinct differences in grade can be interesting building sites, they are more expensive to work with because of the need for more site work, and sometimes require additional money for drainage lines. Occasionally, topography will also adversely affect provision of easy, level access for the physically handicapped. If there is any doubt in your mind about the problems which might be created by the topography of a given site, the counsel of an architect should be sought.

H. HIDDEN OBSTACLES ON THE SITE

Occasionally, sites which seem acceptable have serious draw-

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[36] New York State Library-Library Extension Division. *Criteria for Selection of Public Library Building Projects to Receive Federal Grants in Aid.* (New York Library Services and Construction Act Plan, Title II, Construction.) Albany, 1966, p. 7.

backs in the form of hidden obstacles. Therefore, the site study should include a determination of whether or not subsurface conditions are proper. Usually, the city engineer, public works director, or similar person, can provide adequate information on this point. Some of the obstacles to look for include sewer lines, abandoned drainage lines, underground utilities, improperly packed fill, underground water and streams, and bedrock. All other factors being favorable, these obstacles can usually be overcome, although at some additional expense. Sewer lines and water mains can often be rerouted, while abandoned pipe lines can be removed and the void filled and compacted. Similarly, sites which, in the years past, may have been filled with industrial wastes or other materials can either be cleared with fresh materials brought in and compacted, or the new structure's footings engineered to compensate for unstable ground. If the surface of the site is at or near bedrock, excavation for foundations will be more expensive and basements may be precluded or very costly.

Still another hidden obstacle is underground water. On open land this cannot be detected without digging test holes. However, where there are adjacent structures, their owners should be very much aware of any seepage or flooding occurring in their buildings. If the site is along a lake, stream, river, or watershed, the floor level will be important. Should the site remain a choice one due to other factors, then the structure must be designed with sufficient water protection and/or, possibly, without subsurface levels.

I. ROOM FOR OFF-STREET PARKING

Space for adequate off-street parking is important in the selection of a library site. If the local community has made an effort through the years to encourage merchants to provide off-street parking for their customers, it is quite probable that the library will be expected to do the same. Sometimes parking can be shared with an adjoining business or a municipal parking lot used. If the site must accommodate both the library building and off-street parking, an estimate of the number of vehicles to be parked is needed. The number of parking stalls required will depend upon the local building code and zoning ordinances applicable to the library. These may call for a ratio of parking to total square footage, or to the number of seats provided. A ratio of one foot of parking for each square foot of floor space is common. If the parking requirement is stated in terms of a number of vehicles, assume 390 square feet per vehicle.

If a site under consideration is too small to supply room for both the building and parking, the structure may be designed to accommodate vehicles beneath or on top. However, this is expensive and is an alternative used primarily where land values are very high, or available sites quite limited. Care must be

taken to consider what will happen to off-street parking in the event that the building is expanded at a later date. Sometimes such considerations are important in the design of the structure and its orientation on the site. If the parking lot is depressed sufficiently, a future addition might be constructed above it with limited loss in the number of parking stalls. In any case, off-street parking carries with it a whole set of problems and conditions which require thorough study.

V. PRESENTING THE SURVEY

When factors discussed above, along with any others deemed pertinent, have been thoroughly explored they must be presented in some fashion. Usually, this will be in the form of a narrative report supported by certain charts, illustrations, maps, etc. Some of the ingredients are described in this section. Figure VI-1 and Table VI-1 illustrate how the foregoing discussion might be applied to a situation in which a mythical community is selecting a site for a new library building.

After the present library building was purchased by a retail merchant, the library administrator and Board have been evaluating various possible locations for the new library. A rough estimate of space indicates the new building will contain about 12,500 square feet and parking for 10 vehicles. In keeping with projected growth, there must be space for a future addition of at least 2,500 square feet. The search has narrowed down to three sites, none being perfect and each having its proponents and its detractors.

As shown in Figure VI-1, the major streets are Center and Main with the major business spreading north and south of Main along Center. Industry has established itself along the railroad tracks and around the shores of Westlake. Three elementary and one high school serve the children. Single family residences occupy most of the remaining land with a number of apartment houses located in the southern part of the town. Many of the older homes around City Park have been converted to apartments also. Summer homes occupy the shoreline of Eastlake which extends into the farmlands further north and east. As a means of comparing the areas of maximum convenience to users, circles have been drawn on a one mile radius from each site. It seems obvious that Site No. 1 is better situated to serve people conveniently than are Sites 2 and 3.

Table VI-1 provides a method for comparing various items of information about the three locations. While more information might be presented in an actual case, the factors would remain similar. Such tables provide a convenient way for summarizing data and making a relatively simple comparison. Facts presented in this way are usually more convincing than when communicated verbally.

Another device for evaluating various sites is to construct a weighted scale of criteria. By applying the criteria to each site

FIGURE VI-1

LIBRARY SITE MAP

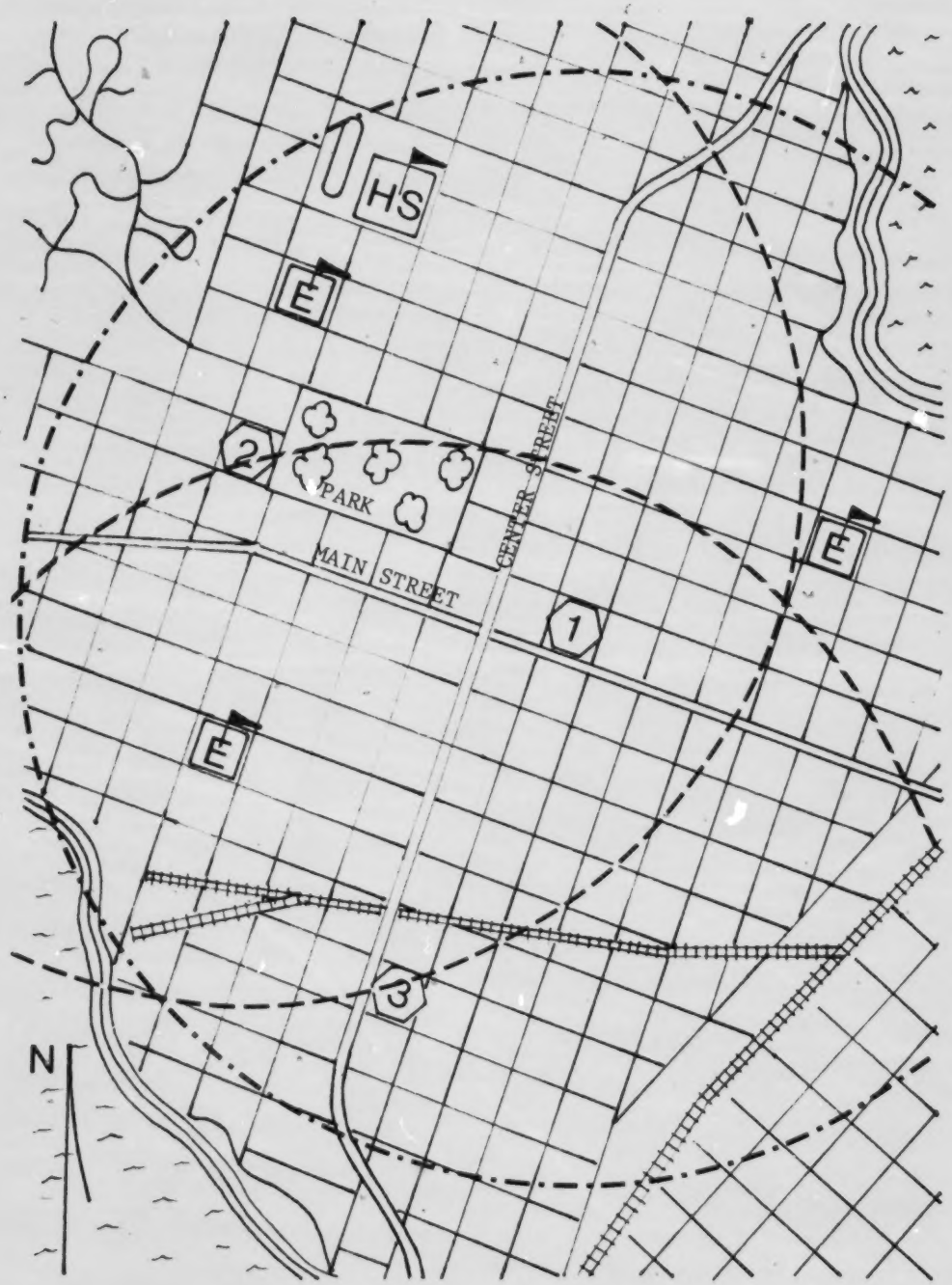

TABLE VI-1

SUMMARY OF SITE FINDINGS

FACTOR	SITE 1	SITE 2	SITE 3
Present Zoning	Commercial/Professional	Multiple Family Residential	Single Family Residential
Proximity to Center and Main Sts. (Crossroads in Business District)	1 block east	5 blocks west and 2 blocks north	7 blocks south
Accessibility to Pedestrians:			
Children	Good	Fair	Poor
Young People (High School)	Good	Fair	Poor
Adults	Good	Fair	Poor
Accessibility from Residential Areas:			
Northeast quadrant (40% of population)	Good	Fair to Poor	Poor
Northwest quadrant (35% of population)	Good	Good	Poor
Southwest quadrant (14% of population)	Fair to Good	Fair	Good
Southeast quadrant (11% of population)	Good	Poor	Good
Size of Site: Library requires 12,500 sq. ft. for initial bldg. and 2,500 sq. ft. for future addition; Parking: 10 vehicles @350 sq. ft. plus land for set-backs	3 - 10,000 sq. ft. lots = 30,000 sq. ft. Site is adequate	2 - 10,000 sq. ft. 1 - 25,000 sq. ft. 35,000 sq. ft. Site is adequate	1 - 15,000 sq. ft. 1 - 10,000 sq. ft. 25,000 sq. ft. Site is not adequate

drives, landscaping;
Total minimum estimated:
24,000 sq. ft.

Shape of Parcel	Rectangular	Ell shaped	Square
Availability	One Owner (local) Not on Market Now	3 Owners: 1 parcel for sale 1 lot in estate litigation 1 lot absentee owner	2 Owners: Plans ready for construction of house on 1 lot 1 lot for sale
Orientation	South exposure	East exposure	West or North exposure
Topography	About 2% fall from north-east to south-west corner	Level except for corner which has 6 ft. depression involving approximately 1,800 sq. ft.	Center of lot about 5 ft. lower than either end; old creek bed suspected
Hidden Obstacles	Water main crosses back of property; may have to be rerouted; extensive basement under present building	None known; existing residence has a partial basement	Owners of adjacent structures report seasonal flooding in basements
Special Considerations	Site of town's first store and post office	Site offers panoramic view of park especially beautiful in fall and spring	Heavy trucking on Central to local industries
Parcel Value (Based on Appraiser's Report)	$1.40/sq.ft. = $42,000	$.90/sq. ft. = $31,500	$1.10/sq. ft. = $27,500
Percentage of Total Project Cost if building is $400,000	10%	7%	6%

and choosing a relative score, a comparison can be made of the relative merits of each site in terms of both individual criteria and in total. Admittedly, the weighing procedure involves a factor of individual judgment which may be opened to criticism. Usually, this is reduced or eliminated by having a number of knowledgeable people independently judge the sites. Both the combined scores and the differences between individual rankings provide valuable information. A sample list of criteria and weighing for the hypothetical situation examined in Figure VI-1 and Table VI-1 is shown in the following table. Obviously, both the criteria and weight scale can be altered in many ways. The important thing is to provide a comparison of criteria which recognizes that some are more relevant to the location of the library than others.

TABLE VI-2

WEIGHTED CRITERIA FOR SITE SELECTION

CRITERIA		WEIGHT
GROUP I:	Essential	
A.	Site easily accessible to automobiles, public transportation, bicycle riders, and pedestrians from all parts of the community	1 - 9
B.	Sufficient land can be made available for building, parking, public and service entrances, and future expansion	1 - 9
C.	Space available for adequate off-street parking	1 - 9
GROUP II:	Important	
A.	In or at edge of major retail shopping area	1 - 7
B.	Provides easy, safe ingress and egress of cars and other vehicles to facilitate drop-off and pick-up of library users	1 - 7
C.	Topography and soil conditions are suitable for construction	1 - 7
D.	Site is generally free from adjoining nuisances such as a factory or business which might produce noxious odors, emit distracting noise, or create an unpleasant visual environment	1 - 7
GROUP III:	Desirable	
A.	Site is easily visible with potential for self identification	1 - 5
B.	Supplementary off-street parking is available nearby for overflow parking	1 - 5
C.	Site is relatively free of obstacles and barriers including underground obstructions, adjacent railroad tracks, etc.	1 - 5

Applying this scale to the previous example might yield a table as follows. The higher the score the better the site.

TABLE VI-3

APPLYING CRITERIA TO SITE SELECTION

CRITERIA	SITE		
	#1 Main St.	#2 Park	#3 Center St.
GROUP I: Score 1 - 9			
A. (Accessibility)	8	3	6
B. (Sufficient Land)	8	9	5
C. (Parking)	9	9	9
	25	21	20
GROUP II: Score 1 - 7			
A. (Near Shopping)	7	2	4
B. (Safety to Users)	6	7	2
C. (Topography)	5	4	3
D. (Environment)	6	7	2
	24	20	11
GROUP III: Score 1 - 5			
A. (Visibility)	5	1	3
B. (Supplementary Parking)	4	3	2
C. (Possible Obstacles)	3	4	1
	12	8	6
TOTAL SCORE: (Possible 70)	61	49	37

The above method provides a more systematic way to deal with site selection than merely arguing the general merits of various locations and avoids selection on a purely cost basis. It is important that criteria be clearly defined and fully spelled out and that the grouping according to their relative importance be generally acceptable to the community and its leaders. By having several people evaluate the sites and then compiling the scores, a composit evaluation reflecting the views of various individuals can be achieved. This is particularly helpful when a number of sites are under consideration and/or the community appears to be seriously divided.

VI. SUMMARY

The question of location is almost certain to precipitate community interest and the public is quick to take sides. Many extran-

eous issues may cloud the facts and make rational decision difficult, if not impossible. Therefore, the library administrator is urged to carefully prepare data which can be useful in making objective comparisons of various sites. Some favored locations and prejudices may arise to support civic and community centers, while others may favor school grounds or parks. After information is gathered it must be presented in an orderly and carefully written report using tables, charts, maps and other figures as needed to make comparison easier. The matter of land cost is often blown out of proportion when placed against the community's on-going investment in the library, the total value of the project, and public convenience over a period of years. The importance of location which is in keeping with library objectives, thereby easily accessible to a maximum number of potential users, is a goal which must not be compromised.

CHAPTER VII

GETTING A BUILDING PROJECT UNDERWAY

With the data accumulated in the completion of the first three steps, (1) Needs Assessment, (2) Alternative Analysis, and (3) Building Program Statement, the library Board and administrator should be prepared to get the building project underway. The exact route will be determined by local factors. If a broad consensus of community support is felt, then the Board may proceed directly through the official channels to seek authorization and funding. However, if such a tide of public approval is not apparent, a program of education is probably necessary.

I. ROLE OF THE LIBRARY BOARD

While the library Board will have participated to some degree in the preliminary steps, leadership will probably have been exercised by the library administrator. However, at this juncture the library Board must take command and move into the political arena to seek implementation. In an important chapter on "The Trustee and Building Problems"[37] Virginia Young noted the following as library trustee responsibilities:

> *While each member of the planning team has well defined responsibilities, the functions of the library board as the policy making body are fundamental to the entire effort for it is the library board that carries full responsibility for (1) initiating a building program, (2) organizing it, and (3) finding ways and means to implement the project. It is responsible to the community throughout the entire building project for legal and financial decisions and appointments. The specific duties of the board are as follows:*
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> 1. *Make the decision that a new building is needed.*
> 2. *Select a qualified professional librarian to direct the service planning of the building program if one is not now employed.*
> 3. *Study the community.*
> 4. *Initiate a library survey.*
> 5. *Approve the written program of present and future building needs.*

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[37] Young, Virginia G., *The Library Trustee: A Practical Guidebook.* New York, R. R. Bowker Co., 1969. Pp. 72-74.

6. *Direct the campaign to let the community know about the needs for a new public library building.*

7. *Appoint a strong building committee from within the board membership, or if small enough, name a committee of the whole.*

8. *Select and appoint a qualified architect.*

9. *Select and appoint a qualified library building consultant.*

10. *Select and appoint an attorney.*

11. *Select and appoint an interiors specialist.*

12. *Secure funds for the project if it is not endowed.*

13. *Estimate cost of operating the new building and seek assurance of adequate operating funds once it is completed.*

14. *Activate campaign, referendum, or whatever is needed financially.*

15. *Select and purchase a site with advice and assistance of the planning team.*

16. *Approve preliminary plans, furniture, and equipment layouts.*

17. *Authorize the invitation for bids for the building.*

18. *Approve construction contracts.*

19. *Approve furniture and equipment contracts.*

20. *Approve and pay invoices.*

21. *Arrange dedication, open house, and announcements to public.*

22. *Help acquaint public with the new services and program now possible and available.*

A. LEGAL AUTHORITY

The library Board must be fully aware of the responsibilities and authority conferred by paragraph 43.58 of Title VI-B, *Wisconsin Statutes*, which states:

43.58. Powers and duties. (1) The library board shall have exclusive control of the expenditures of all moneys collected, donated or appropriated for the library fund, and of the purchase of a site and the erection of the library building whenever authorized. The library board also shall have exclusive charge, control and custody of all lands, buildings, money or other property devised, bequeathed, given or granted to, or otherwise acquired or leased by, the municipality for library purposes.

In addition, the library Board should consult with local officials to determine whether other municipal or county laws exist which will affect the Board's authority and scope of responsibility. Clearing these legal provisions early will help Board members to focus attention on their proper responsibilities and avoid any possibility of confusion or conflict with other public officials in the future.

B. THE LIBRARY BUILDING PROJECT COMMITTEE

Perhaps the first step for the Board to take, if it has not already done so, is to appoint a building project committee consisting of the members of the Board who have particular strength within the community's political structure and interest in the building project. The Board may, of course, decide to serve in this capacity as a committee of the whole. If a smaller committee is selected, its responsibilities and authority must be carefully delineated. There should be a clearly defined statement in the committee's charge which determines when the committee must report to the Board and seek its approval before proceeding. For instance, what role shall the committee follow in selection of a building consultant or the architect? In some cases, the committee may be empowered to make the selection and negotiate the necessary contracts, while many Boards wish to limit the committee's authority to submission of recommendations. Further, while the committee may be empowered to work with the architect in the design of the project, should final approval of the drawings be the responsibility of the committee or of the entire Board?

Similarly, the committee's relationship to the library administrator should be spelled out so that each understands what is expected. For instance, the library administrator must know how far he or she can go in presenting ideas and making decisions with the architect. In many cases, the library administrator is given a relatively free hand in working out building details and the building project committee concerns itself only with the overall concepts and results of design. Where a competent library administrator is involved, this practice usually works best. Further guidance in the determinarion of responsibilities can be provided by the Bureau of Public and Coopera-

tive Library Services consultants who can furnish first hand experience and examples to interested Boards and administrators.

II. MOVING THE PROJECT FORWARD

Board responsibility, whether through the building project committee or as a committee of the whole - begins with recognition of the need for an improved library facility. Usually, this takes the form of authorizing the library administrator and/or building project committee to produce the needs assessment study.

A. THE NEEDS ASSESSMENT STUDY

When the results of this study are completed, the Board reviews the recommendations and considers the basic alternatives: (1) remodeling, (2) construction of an addition, (3) construction of a new building, and (4) occupation of a structure originally designed for another purpose. After discussing the pros and cons, the Board makes the final determination of which alternative seems most suitable. Then the library administrator is usually authorized to proceed with the preparation of the building program statement.

B. CHOOSING A BUILDING CONSULTANT

At this time the library Board may wish to consider whether or not assistance may be needed from a library building consultant; if so, a list of possible consultants is gathered by the library administrator from sources such as the Bureau of Public and Cooperative Library Services and the Library Administration and Management Association of the American Library Association. If a consultant is chosen, the Board must carefully delineate the consultant's responsibilities and authority. The consultant may be limited to reviewing the building program and architectural drawings or may be responsible for program preparation and working directly with the architect during design. Similarly, at the proper time, the Board is usually responsible for the selection of the architect. A fuller explanation of this process is provided later in this chapter.

C. SEEKING SUPPORT

Once the extent of the library's facility needs have been established and the nature of the improvement determined, it is time for the Board, or its Building Project Committee, to seek official support from the appropriate city or county authorities. This may be done in a variety of ways depending upon the nature of the relationships between the Board members and the public officials as well as the normal procedures established by the jurisdiction for such activity. In some instances, the Board members may use a very informal approach, discussing the

proposed project with a few key individuals who can be expected to present the library's needs to the official body. In other cases, the library Board may choose to make a formal presentation at a joint meeting to which the members of the governing bodies involved are invited.

Out of this process should come the necessary decisions granting authority for the library Board to proceed with the project. There should be a clear determination of which body is to be legally responsible for the project and such steps as (1) resolving the financial implications, (2) submitting the project to bids, (3) awarding contracts, and (4) expending funds and accounting therefore. A joint committee of the Board and the Common Council or Board of Supervisors may be established to investigate and recommend methods of financing the project; however, final authority for financing usually rests with the Council or Board of Supervisors, unless the library has received bequests or other special funding.

D. ARCHITECTURAL DEVELOPMENT

As the architectural design work proceeds, the Board will review the progress being made to implement the building program statement. Regular reports from the library administrator and/or the building project committee will be in order. At the three critical stages of design the Board or its authorized committee should give formal approval to the plans: (1) schematic stage, (2) design development, and (3) working drawings and specifications. With the approval of the third stage, the architect will prepare the bid documents for submission to qualified contractors. In most jurisdictions, the working drawings and bid documents are reviewed by the city or county building department and the call for bids issued by the library Board, the Council, or the Board of Supervisors. Following an analysis of the contractors' bids by the designated authority, the final award of bid is made by the library Board, the Council or Board of Supervisors and then the construction begins. (*Wisconsin Statutes*, 62.15.)

E. INTERIM REVIEW OF PROJECTED OPERATING COSTS

Once plans for the building have proceeded to the point where major details have been agreed upon - perhaps midway into the Design Development stage, the library Board should request the library administrator to analyze the impact the new building will have on library operations and the annual operating budget. The administrator should detail for the Board's review all implications the new building will have on staffing, library operations, collections, and services. Budgetary requirements should be indicated along with any need for changes in policies, operations, rules and regulations, etc. If cer-

tain features in the building plans appear to be increasing costs excessively, they should be studied while there is time to make changes in the plans. A study of this kind done at this stage can save considerable anxiety, disappointment, and unpleasant surprises later on.

F. CONSTRUCTION

Once the construction is underway, the Board can concentrate its efforts on the completion of the project which includes the final stages of interior design and selection of furniture and equipment. Significant change orders during the construction will also come to the Board for approval. If the Board is legally responsible for the construction project, it should receive regular monthly progress reports from the contractor and/or construction supervisor (if one is employed on the project). These reports should indicate the work completed during the previous month, the work now in progress and new work expected to begin during the month. Each progress report should clearly indicate how well the construction schedule is being maintained and whether or not significant delays have occurred or are anticipated for any reason. The Board may also wish to meet periodically with the contractor to discuss the project and, upon occasion, tour the building site. Such tours, of course, must be done only at prearranged times and under such conditions as may be deemed safe by the contractor.

G. OPENING THE NEW LIBRARY

Once the project has been finished, the Board will be responsible for opening the new facility to the public. This should be programmed as an event of major significance for the community with sufficient publicity to command general attention. By capitalizing on the natural interest most people have in remodeled, expanded, or new buildings, the Board should seek to attract those who ordinarily do not visit the library as well as the regular users. The dedication program should direct attention to the many advantages afforded the user in the new facility, as well as provide an opportunity for recognizing those who have been instrumental in the project's success.

The library Board's responsibility for the building project has been briefly traced in the preceding paragraphs. Since each project and community differs and because the relationships of the library Board to the governing body of the jurisdiction varies enormously from one place to another, it is difficult to present more than a general framework for the Board's participation. The consultants of the Bureau of Public and Cooperative Library Services can provide further information on the probable role of the library Board in any given instance.

III. COMMUNITY INVOLVEMENT

There is often good reason for the library Board to encourage general community participation in the building project. By involving community leaders and representatives, the programming of the facility may better reflect the needs and wide-spread interests of the general public. Further, such involvement assures the project of continued public visibility and a better chance for broad acceptance. While library Board members represent the citizens, they are sometimes looked upon as having certain biases because of their official positions on the Board. How to obtain genuine citizen participation is often more a question than whether or not it is worthwhile.

A. FRIENDS OF THE LIBRARY

Where a Friends of the Library organization exists, the library Board will probably find a natural interest in facility improvement. Therefore, it may be quite simple to achieve a degree of citizen participation through an advisory committee appointed by the Friends. Such an advisory group may meet with the Board or its Building Project Committee to study various problems, review architectural drawings, etc. The library administrator may ask the advisory group for ideas to be incorporated into the building program. The Board may also use the advisory group as a sounding board for various alternative courses of action, assuming that the membership is fairly representative of the community. The Friends may also be helpful in working with governmental officials in seeking project approval or funding. If no Friends group presently exists in your community, the pending library building project may offer the best possible time to organize one.

B. THE COMMUNITY COMMITTEE

Where Friends of Library organizations do not exist, or where the Board wishes broader representation, a community advisory committee may be formed with representatives chosen in a variety of ways. Various organizations may be asked to appoint one or more members, while the Board chooses representatives at large. Once formed, the community advisory committee would perform in the same way as the Friends of the Library Advisory Committee discussed in the preceding paragraph.

C. THE CITIZENS COMMITTEE

A somewhat different approach can be used through the formation of a broad-based citizens' committee. This is particularly helpful when it is difficult to gain action on the part of public officials. While the membership of such a committee can be appointed by the Board, it is often more successful if the Board can persuade the Council or Board of

Supervisors to make the selection. The membership should consist of a cross section of the community, including representatives of organizations, governmental agencies, clubs and societies, business and industry, labor unions, and members-at-large chosen to provide special expertise or to give recognition to particular groups.

Usually, the objectives of the Citizens Committee are somewhat different from those of the previously mentioned advisory committees. The purpose of this group is often narrowed to persuading the governing body to approve the library building project and, when necessary, to provide adequate funding for it. This technique is particularly useful where library Boards, over a period of time, have been unable to get such action.

When a Citizens Committee is formed, the library Board assumes a supportive role, furnishing such information as may be needed. The Committee members organize themselves into a working unit with clearly defined objectives. Once these are achieved the Board resumes command of the project and proceeds with implementation.

To describe this process further, in one community where several attempts to provide an adequate library building had failed, the Council was persuaded by the Board to appoint a Select Committee of One Hundred. Prominent citizens were selected by the Council and this group was augmented by representatives from various clubs and organizations. Special attention was given to representation from those parts of the community which frequently opposed projects which might increase taxes. The Council appointed a convening officer and provided a statement of charge for the committee which included determining whether or not a new or improved library facility was actually needed, and if so, where it should be located and how it should be financed. The library Board's prerogatives were carefully shielded.

At its first meeting, the Citizens Committee of One Hundred elected permanent officers and divided itself into several task forces, including: (1) needs assessment, (2) finance, (3) site, and (4) public information. The four task force chairpersons and the elected Committee officers became an Executive Committee.

For several weeks the task force groups studied information supplied by the library Board and assembled from other sources. At the designated time the findings were reported to the Citizens Committee of One Hundred at a public meeting attended by a sizable crowd attracted by the continuing publicity which had accompanied the Citizens Committee's efforts. The findings indicated that a much larger library facility was needed and that the present building could not be economically expanded because of its physical condition. The Committee endorsed the library

Board's findings concerning the amount of space which should be built, and gave priority to the three sites the Board had considered. After discussing various alternatives, the Committee decided that the estimated cost of the new library was well within the financial capacity of the city and recommended that a referendum be called to approve the library building.

At a subsequent Council meeting, the Committee's report and recommendations were heard. A Council which had previously failed to accept the library Board's recommendations found itself persuaded by the findings of this Committee of One Hundred. In its enthusiasm, the Committee volunteered to provide leadership for the referendum which won handily at the polls. In a few short months the Citizens Committee had succeeded where other efforts had failed for more than a decade.

IV. ASSEMBLING THE PROJECT TEAM

The increasing complexity of building projects, including public libraries, has resulted in the creation, in many cases, of Building Project Teams. The following are usually represented on such a team for a library building: (1) the architect, (2) the library administrator, (3) the library Board, (4) the library building consultant, (5) the local governmental agency, and (6) representatives of the library staff and general public. The concept of the Project Team and the advantages it offers are described below.

A. PURPOSE AND MEMBERS OF THE PROJECT TEAM

The Project Team concept has gained increasing recognition over the past decade or two. The library administrator is advised to review the various statements concerning this subject which have appeared in library literature. Of particular interest are the several presentations and discussions which have occurred in the Institutes conducted by the Buildings and Equipment Section of the American Library Association's Library Administration and Management Association.[38] (If the library administrator does not have copies of these proceedings at hand, they may be borrowed through the Bureau for Reference and Loan Services.) A careful reading of the literature and exposure to the experiences of other librarians who have gone through a building project should provide convincing arguments as to the need for a Project Team: good buildings are usually the result of intensive collaboration on the part of several individuals.

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[38] Two of the more recent items are in *Libraries: Building for the Future*, edited by Robert H. Shaw. (ALA 1967), pp. 29-33; *Library Buildings : Innovation for Changing Needs*, edited by Alphonse F. Trezza. (ALA 1972), pp. 160-171

1. THE ARCHITECT

The architect's role is to convert the written library building program provided by the library into the design for a structure which will enable the various components of the library to function effectively and efficiently in a proper environment. This is done through an evolution of drawings which begin as simple sketches and end as complex working drawings and specifications geared to the needs of the building contractor. The architect is a blend of artist and engineer, visionary, and pragmatist. (The last section of this chapter is devoted to choosing an architect and Chapter VIII to the sequence of architectural work.) The library administrator and Board should have a full understanding of the architect's responsibilities so as to appreciate the contribution the architect will make to the project.

Except for very large projects, the architect will also represent the various engineering skills required by the building, such as structural, mechanical (heating and air conditioning), electrical, and plumbing. Unless other arrangements are made, the architect may also be committed to providing a layout for furniture and even equipment, selection of furniture and equipment, and colors.

2. THE LIBRARY ADMINISTRATOR

The library administrator commands a very complex role which will vary depending upon the size and nature of the project and whether or not the services of a library building consultant are used. In general, the library administrator and Board will be responsible for the preparation of a building program statement and the general coordination of the Project Team. The library administrator must be prepared for a seemingly endless round of meetings and a maze of notes, correspondence, budgets, schedules, check lists, plan review sessions, and decisions. It is a time of intense and exciting activity. Depending upon the size of the project and the assistance available, the library administrator will often find it necessary to delegate a part of his or her normal work load to other members of the staff so as to better concentrate on the building project. When sufficient time is not available for the library administrator to participate fully, decisions are almost inevitably made which will adversely affect the library's operations at a later date.

3. REPRESENTATIVES OF THE LIBRARY BOARD

One or more members of the library Board should serve on the Project Team. While the entire Board may wish to -

and can be included if desired - this may make it difficult to hold meetings as frequently as they must be convened. Discussion may also be more difficult if the number of people on the Project Team is too large. Since many of the meetings will probably be held during the day, it is important that the Board's representatives be those individuals who can attend such meetings without difficulty; regular attendance is essential. Some Board members may have had experience with other building projects which can be most useful. In any case, the Board will retain its authority over the project through the normal processes of reporting, evaluation, and approval at designated stages.

4. THE LIBRARY BUILDING CONSULTANT

Increasing use has been made of library building consultants in recent years. The reader would do well to review statements made by Keyes Metcalf[39] and Robert Rohlf,[40] experienced consultants; additional material can be found by referral to the topic: "Architecture and Building - Consultant Services," in recent issues of *Library Literature*.

Library building consultants are usually experienced library administrators who have been involved in several building projects and, through experience and self-education, have gained a better-than-usual working knowledge of the process. Most such consultants perform their services as an avocation while a few devote full time to consulting practices.

The role played by the library building consultant will vary. Those who have used consultants generally agree that the earlier the library building consultant is brought into the picture, the better. This means that the consultant will often be engaged before other members of the Project Team are named. As a part of his or her services, the consultant may help with site selection, assist in the preparation of the building program, and aid in the selection of the architect.

As a member of the Project Team, the library building

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[39]Metcalf, Keyes. "The Library Building Consultant," *Problems in Planning Library Facilities: Consultants, Architects, Plans and Critiques*. Edited by William A. Katz and Roderick G. Swartz, American Library Association, 1964.

[40]Rohlf, Robert H. "The Consultant's Role," *Library Buildings: Innovation for Changing Needs*. Edited by Alphonse Trezza, American Library Association, 1972.

consultant will bring to bear knowledge gained from previous experience and study. Since language and communications are often real problems, the consultant usually attempts to interpret intricate library concepts and explain requirements in language familiar to the architect. He or she must be a diplomat, occupying a neutral position which has only the best interests of the future library at heart, The consultant represents the long range viewpoint.

5. REPRESENTATIVES OF THE LOCAL GOVERNING AGENCY

If desired, the Project Team can include a representative of the local government. This is important when a high level of project liaison is required. As in the case of the library Board representatives, this person should be capable of attending frequent meetings. Skill in communications would be a helpful attribute if the Project Team is to depend upon this member to keep the Council or Board of Supervisors informed of progress.

6. REPRESENTATIVES OF THE PUBLIC AND/OR STAFF

Sometimes one or two additional members are added to the Project Team to represent the community and/or library staff. The community representative can be a valuable asset if properly chosen. As in the case of the person representing the governmental agency, the community representative provides input from the standpoint of the library user and, at the same time, is a point of communication with the public. This is a working appointment, not an honorary one, so that the person selected should have the time required to be fully involved in the Project Team's meetings and other activities.

In the case of a large project, a representative may also be appointed on behalf of the library staff, However, this is infrequently done since the library administrator presumably represents all interests of the staff in the project. If a staff member is appointed to the Project Team, he or she should be selected by a democratic process by the staff and given time to attend meetings. Oftentimes, in larger libraries, the library administrator may establish a staff committee on the library building project as an advisory body. Keeping this committee informed as plans progress, the administrator may request that a representative meet with the Project Team when matters of particular importance, such as staff facilities, are involved.

7. OTHER SPECIALTIES

Depending upon the size and nature of the project, other specialists may merit positions on the Project Team. For

instance, if the interior design work is to be the product of someone other than the architect, the representative of the designer should be involved no later than the schematic phase. This member of the Project Team will have the responsibility for developing the furniture and equipment layout and budget, select colors and materials required for wall and floor coverings, and write specifications for furniture and equipment to be purchased. The interior specialist can make a distinct contribution to the project and provide important insights to the Project Team.

B. TIMING THE PROJECT TEAM'S SELECTION

While the Project Team may be put together all at one time, it is more likely to evolve as the project progresses. Obviously, the library administrator and Board representatives form the nucleus. The library building consultant may well be the next member. Once the architect is retained, the Project Team's membership can be formalized. At this point, the other representatives should be appointed and the first of many meetings of the Project Team can get underway. Specialists, such as the interior designer, can be added a little later - usually at the time when schematic designs are under consideration

C. THE PROJECT TEAM DURING CONSTRUCTION

The composition of the Project Team as described above concerns the period when the building is in the various planning stages. Once a contractor has been hired to build the structure, the Project Team may wish to expand its membership, or ar least to have ex-officio representation from the building contractor. Through this mechanism, the Project Team can keep pace with the progress of the construction, give consideration to any change orders that may be instituted, and cooperate on plans for dedicating and occupying the building following its completion. During this period the plans for interior design will be finalized and furniture and equipment selected for purchase. Sometimes decisions on landscaping details may also be deferred until after construction begins. Therefore, while meeting less frequently perhaps, the Project Team, nevertheless, must continue its work. Members may elect, following the completion and occupancy of the building, to prepare a brief official report describing their efforts and stewardship. Such a report may be invaluable, especially if the records of individual meetings are attached as an appendix, providing future library administrators a rather complete document through which particular decisions can be traced. In any case, such a record should certainly be compiled and kept for the library's archives.

D. PROJECT TEAM MEETINGS

The nature of the work undertaken by the Project Team requires

a high degree of informality. The library administrator often acts as the chairperson or moderator, calling meetings as necessary, overseeing correspondence, and routing plans and reports for study. The work sessions should be held in quarters which permit the members to assemble around a large table where plans can be spread out and discussed. Every attempt must be made to promote a full exchange of views. Frankness, seasoned with diplomacy, is the order of the day.

Prior to each meeting the library administrator, or whoever is acting in the capacity of secretary for the group, should prepare an agenda and send it to each team member. During the meeting it is essential that a careful record be made of all important points, including decisions, special assignments and schedules. So that all project members may be unencumbered by such duties, the library administrator may need to have a member of his or her staff serve in the capacity of recording secretary. The records of each meeting should be carefully typed, reproduced, and copies sent to each Project Team member as soon after the meeting as possible.

At the conclusion of each session, the library administrator should review all decisiions and assignments with the other team members and make sure that there is a full understanding. Between Project Team meetings a good deal of information gathering will often occur, with reports scheduled for a subsequent time. It is important that such assignments be completed on schedule. Seeing that these assignments are met is a part of the library administrator's job in coordinating the Project Team.

Before the Project Team ends each meeting, the Team will want to establish: (1) whether or not the project is on schedule, and (2) the time, date and place of the next Project Team meeting. Delays in project schedules can easily occur with all sorts of consequences. Frequent reference to the schedule will avoid such unpleasant surprises and reinforce the need for the Project Team to make decisions, gather information, and complete other assignments as scheduled. Setting the date, time and place of the next Project Team meeting before adjournment saves a good deal of time otherwise required to set up a meeting.

V. CHOOSING THE ARCHITECT

Some library projects begin with the selection of an architect. While this may sometimes be the correct first step, it is usually premature. Whenever it is necessary to retain an architect for the purpose of evaluating an existing structure or help analyze a possible library site, he or she should be compensated for whatever time may be involved to avoid any feeling of obligation. It is not until the building program statement has been completed and other decisions made that the architect can be fully useful on most projects.

A. WHEN TO CHOOSE AN ARCHITECT

The decision to retain an architect should be made after the project has received approval for design and following the completion of the Library Building Program Statement. If retained prior to these decisions, the architect may waste valuable time or be tempted to move into the designing of the structure before the necessary information is available. Since most architects require an initial payment as a retaining fee, funds must be available for immediate use.

B. CHOOSING THE ARCHITECT

The process employed in choosing an architect will vary from one situation to another. For instance, the choice may be limited to architects practicing in the local community or within a particular geographic area. Where possible, the following procedure is suggested.

1. COMPILATION OF A LIST OF ARCHITECTS

The first step is to prepare a list of architects registered in Wisconsin for consideration. The list may begin with registered architects[41] known by members of the Project Team, those recommended by public officials, and others. The Bureau of Public and Cooperative Library Services can supply the names of registered architectural firms who have designed library buildings in Wisconsin. The Library Administration and Management Association of the American Library Association can also provide a list of recently completed library buildings, including the names of their respective architects. Further lists can be found in the annual "Architectural Issue" of the *Library Journal*.

The length of the list will depend upon various factors, including the size of the project, the number of local architects eligible, the distance of the project from urban centers where most - but not all - architects practice. However, a list of a dozen or more names selected from all those suggested is not too large a group to receive serious consideration.

2. THE INVITATION

Architects are usually looking for new work and, there-

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[41] The Wisconsin Administrative Code requires that all plans, specifications and calculations for buildings in Wisconsin must either be prepared by a Wisconsin registered architect or engineer or approved thereby. See *Wisconsin Administrative Code Ind. 50.07, 50.08, 50.10 and 50.12.*

fore, may learn of the impending project from various sources. In such a case, a representative of the firm will ask for consideration. However, other firms may miss the news so it is wise to send out a specific invitation. This can be in the form of a letter which provides essential information about the project and the selection process.

The letter of invitation should indicate the nature, size, and projected cost of the venture and the schedule for completion. If additional information, such as a building program, is available, the architect should be advised how to obtain a copy. The letter should also give the architect particulars on the selection process - who, how, where, and when. Usually, selection requires two steps: (1) preliminary screening based on the analysis of materials submitted by the architects, and (2) interviews with the architects who seem best qualified.

The architects should be instructed as to the kind of information they should send to qualify for the first round in the elimination process, including (1) a resume and record of projects completed and in process, (2) information about the size of the firm, its areas of special expertise and experience, (3) the number of people in the firm serving in various capacities, (4) a list of projects that they recommend as representative of the firm's work, including any libraries, and (5) specific information needed to make comparisons called for in your evaluation criteria. (See 3 below.) Be sure to place a specific deadline on their responses (usually two to four weeks). Do not hesitate to call firms on the list who may not have responded as the deadline nears - such an oversight may arise from many conditions and could deprive you of considering a preferred choice.

3. EVALUATION

As the responses are received, a certain amount of follow-up should be done. First, the materials sent should be reviewed to make certain that there is sufficient material available for evaluation. Secondly, recommendations should be sought from previous clients. The list of criteria for evaluation will be helpful in obtaining useful information. Of particular interest will be testimony to the firm's ability to work well with the other members of a Project Team. Should questions arise as a result of this preliminary review of the submittals and client recommendations, ask the firm or firms for additional information or explanations.

After the deadline for response has been reached and the preliminary review completed, the submittals should be evaluated and the field narrowed to the firms which will be invited

for an interview. By evaluating each submittal against a basic list of criteria, it is possible to bring some objectivity to the process. The list of criteria might include the following:

a. Size of firm and number and types of personnel (i.e., architects, engineers, draftsmen, interior designers).

b. Experience in handling projects of similar type and size.

c. Recommendations of previous clients.

d. Appropriateness of design as expressed in recent projects.

e. Past record of accuracy in estimating construction costs.

f. The average number of change orders made on projects during construction and their cost as a percentage of the total project cost.

g. Ability to work closely with the Project Team.

h. Ability to effectively supervise the project during construction.

i. Responsibility assumed by the architect for revision of plans if construction bids exceed budget.

j. Provisions for providing required engineering services from within the firm or by arrangement with engineering consultants. If the latter, which firms would be used for (1) structural, (2) mechanical, (3) electrical, (4) other?

k. Fee structure.

l. Previous experience in designing libraries.

These questions should be used to determine which firms are most likely to have the experience, staff capacity, and record of achievement necessary to meet your project's requirements.

The selection process may be the concern of the library Board or a selection committee established by the Board for this purpose. Comparing the material submitted by the architects - which will range from finely printed brochures and

elegantly designed resumes to typewritten or multilithed fact sheets - is always an enlightening but lengthy procedure. To begin with, a tentative agreement must be reached on the approximate number of firms which will be interviewed since this quota will help to determine the stringency of the screening process. If the project is a large one, smaller firms with very limited staff may be the first to be eliminated unless there are other reasons for consideration. Where a number of firms have had experience with libraries, these will probably be preferable to those which have concerned themselves exclusively with commercial, industrial, or residential construction. If the list of projects included by a firm reveal that it has seldom been involved in public buildings or projects of your size, this may be considered a weakness. Firms large enough to have certain in-house engineering capacity may be judged stronger than others in some situations. If the architects have designed library buildings, be sure to contact the respective library administrators and ask for a candid opinion of the design work, relationship between architect and client, etc. You may want to visit representative buildings - libraries and others - if they are fairly close. The library is fortunate if it can call upon a building official or other knowledgeable person to assist in this intensive appraisal of talent and potential.

4. INTERVIEWS

Once the field has been narrowed, an invitation should go out to those chosen to be interviewed, and a letter of thanks to those not selected. This letter of invitation should include information as to (1) the time and place of the interviews, (2) the length of time the architect will be given for his presentation, and (3) a list of questions, the answers to which will provide a basis of comparison for the firms interviewed. (A list of possible questions appears as Appendix A.) It is imperative that each firm be asked to include in its representatives the architect who will be responsible for the project, and the design architect if they are not the same person.

In preparing for the interviews, it is important that each member of the selection committee become thoroughly familiar with the candidates by reviewing the materials they have submitted. If at all possible, committee members should visit one or more of the buildings designed by each of the architects so as to have a visual understanding of the firm's work. (See 5 below.) Questions raised as a result of the review of submittals and/or visitation should be worked out so that they can be posed during the interviews.

The same amount of time should be allowed each firm for

the interview. Usually, about one hour is required for each interview. Each firm, to begin with, is allowed 15 to 20 minutes to make a presentation covering the firm's experience, philosophy, etc; this may include a visual presentation of recent projects. Following the architect's presentation, the selection committee should spend the next 30 minutes or so asking the questions sent to the architects earlier, and any follow-up questions which seem appropriate. So far as possible, the same questions should be asked of each architectural firm so as to establish a base of comparable information. At the end of the interview period, the architect should be permitted five to 10 minutes to summarize his/her firm's qualifications.

If the interviews are scheduled with a 15 to 20 minute interval between architects, some of the pressure can be eliminated should extended questioning occur in one or two instances. Interviewing is a time consuming task and sometimes the schedule must be spread over more than one day so that everyone is given a full and careful hearing.

5. VISITATION

As part of the evaluation process, it may be desirable for members of the selection committee to visit libraries or other buildings designed by the architects under consideration. The architects will be happy to supply a list of buildings they have designed. Advance arrangements should be made with the owners or their representatives to tour the buildings and talk with staff. Visitation by teams of two or three people seem to work out best. As much as possible should be learned about the building before the visit is made: prime data may be compiled and fact sheets prepared listing size, cost, and special features. After touring the building, a discussion with management officials, staff, and maintenance supervisors will provide insight into the adequacy of the design and any particular problems which may have arisen. Ellsworth has this advice on visiting:

> *Each visit should result in a report to the planning team. Each visit should be carefully planned by the librarian and the consultant to provide specific information. No random junkets. There are many new buildings without general merit but with one or two outstanding features, and these should be identified. There are also a few buildings which have so many good qualities that they deserve detailed study. . .*
>
> *Visiting libraries is likely to be a waste of time and money unless each visit is pre-planned so that the visitors know what to look for and why.*

One is not likely to gain objective evaluations from the library director or the architects who were responsible for planning the building being visited. Sometimes more can be learned from staff members who work in the building but who did not help plan it.[42]

6. EVALUATION: ROUND TWO

Once the interview sessions have been completed a clear choice may have emerged and all those interviewed should be so notified in writing. Oftentimes, however, the first round of interviews and analysis of accumulated information serves to reduce the number of aspirants who seem best qualified, but does not produce a clear cut decision. In this event, the selection committee should take some time to mull over the data they have gathered. Then the two or three most likely candidates should be asked for a second interview. This round will be devoted to more detailed responses, clarifying answers, posing new questions, and appraising the personalities involved. While a discussion of fees is probably inevitable, it should not overshadow the other considerations.

7. THE ARCHITECT'S FEES

Before an agreement can be reached with the architect, it is necessary to understand the architect's fee practice. This is a legitimate part of the information which you ask the architect to supply for subsequent review and for clarification during the interview process. The fee should not be used as a major factor in the selection determination.

For many years, most architects have abided by a fairly uniform fee schedule and have considered any departure from this to be a breach of professional ethics. Therefore, while it is important to know what the fee schedule of each architect will be for a given project, it is more relevant to determine what services will be provided for that fee. It has been normal practice for architects to charge a fee based on a percentage of the total project cost.

Depending upon the size and nature of the job, the architect's fee will cover the routine structural, mechanical, and electrical engineering fees since these services will either be performed by the architectural firm or subcontracted to appropriate consulting engineering firms. However, specialized services may not be included and the nature of these

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[42] Ellsworth, Ralph E. *Planning Manual for Academic Library Buildings.* The Scarecrow Press. Metuchen, N. J., 1973, p. 57.

should be clearly resolved at the earliest possible point in the negotiations. The architect may, for instance, exclude from normal services such items as detailed interior design, acoustical engineering, theatrical lighting, and landscaping. The client must fully understand which services will be performed by the architect for the stated fee.

The fee is ordinarily payable to the architect in a series of monthly or otherwise regular progress payments with a specified portion of the total fee payable for each phase of work completed. Extra services may be provided at a specified rate - usually a payroll-plus-overhead figure.

9. THE FINAL CHOICE

After the second round of interviews and analysis of other information, one architect may emerge clearly superior to others for the project. On the other hand, two or more firms may continue to be nearly equal in qualifications. During this final winnowing process, special weight should be given the following:

a. Design capability.

b. Rapport of the project and design engineers with members of the Project Team.

c. Background and experience in similar types of projects.

d. The recommendations of former clients, libraries, and others: how was their rapport and would they retain them again for a similar project?

e. Capacity of the firm to handle the project.

When the final choice has been made, contract negotiations should begin. Public announcement of the decision should await approval of the agreement by both the library and the architect.

C. THE ARCHITECTURAL AGREEMENT

Over the years, architects have evolved a standard form of agreement which is often the basis of contractual arrangements. Since architectural services are quite specialized, it is to the library's advantage to use an agreement form such as this which has been tested in the courts. This agreement form provides opportunity for local adaptation through amendment while retaining the important legal provisions. If the library wishes to substitute an original contract, it should be reviewed by legal council familiar with architectural practice.

Besides the usual contract provisions, consideration should be given to whether or not the architect will supply one or more colored renderings of the building and a working scale model, these to be provided at the end of the schematic phase. You may also specify that an initial layout of furniture and shelving will be included in the schematics as evidence that the design will accommodate the library's collections and functions. The contract should also detail and clarify the nature of construction supervision. (See also Section V in Chapter XI.) The Wisconsin Building Code[43] states in part that all construction "shall be supervised by a Wisconsin registered architect or engineer . . ."[44] and further that "prior to the start of construction, the owner of the building shall designate to the department in writing, the name and registration number of the architect, engineer, or designer retained to supervise the construction. . ."[45] Supervision is defined in this section of the code as:

> *(1) Definition. Supervision of construction is a professional service, as distinguished from superintending of construction by a contractor, and means the performance, or the supervision thereof, of reasonable on-the-site observations to determine that the construction is in substantial compliance with the approved plans and specifications.*[46]

In other words, the architect is not concerned with the day to day enforcement of the building code or other regulations. The wisdom of having a part or full time construction supervisor - Clerk of the Works - on the project is dealt with in Section VI of Chapter XII.

VII. SUMMARY

Getting the library project underway requires active participation by the library Board in obtaining official approval from governing officials and establishing a Project Team. As an essential part of the project the Board must also select an architect. These steps require a certain amount of involvement in both the community and the political processes. The library administrator often serves as the coordinator for much of this effort.

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[43] *Wisconsin Administrative Code Section Ind. (50.10)*

[44] *Ibid.*

[45] *Loc. cit. 50.10 (2)*

[46] *Loc. cit. 50.10 (1)*

CHAPTER VIII

ARCHITECTURAL IMPLEMENTATION AND DEVELOPMENT

The purpose of this chapter is to describe the various steps normally required to convert a building program into architectural drawings and specifications for the building contractor. Each step becomes more complex and involved as planning proceeds. Because of this, every effort should be made to make necessary changes at the earliest possible moment. The architect provides the initiative and momentum during this phase of the project.

I. FIRST STEPS

After being awarded the contract for providing architectural services, the architect will begin a thorough review of the building project. A design architect will be assigned to this phase of the program and one or more meetings with the Project Team should be held to assist in the interpretation of the building program and to answer questions.

As a second step, the architect will work out a time-line schedule for the design phase. This schedule will provide dates for the completion of the three major planning phases and a target date for placing the work out to bid. As the plans develop, the architect must incorporate into the schedule the input from structural, mechanical, and electrical engineers, as well as the work from any other specialists who may be involved.

II. SCHEMATIC DESIGN PHASE

The first phase is usually known as the schematic design phase. During this period the architect assimilates the building program, and converts the relationship studies into detailed bubble drawings, trying to organize the functions into a logical pattern. An analysis of space requirements will be made to give some sense of dimension to the various library areas. These will be combined in an evolving series of drawings to produce the first schematic or single line drawings which delineate the outlines of the building and relate it to the site. As these schematic plans develop, many changes are apt to occur as various solutions are attempted.

Among the important decisions the architect will make during this early stage of work will be the dimensions of the bay or module. In general, the bay or module then becomes the governing unit of measurement for the building. While it refers specifically to the distance between columns, forming the bay or module may also influence or control dimensions in larger column-free spaces, especially where these adjoin areas containing columns. The dimensions of the module are particularly important in libraries because standard

shelving is constructed in three foot lengths and stack ranges consequently are in multiples of three feet. Unless this is considered in the spacing of the columns, considerable waste space can occur, as well as awkward stack configurations. Bays that are too small result in additional floor space being occupied by columns while oversized bays may require structural materials that are relatively expensive. Since architects may not be fully cognizant of the critical nature of this relationship for libraries, attention should be drawn to the excellent discussion of this subject, including many helpful tables, found in Keyes B. Metcalf's volume, *Planning Academic and Research Library Buildings.*[47]

The schematic drawings will include floor plans which show the major areas of the building, several elevations to indicate how the library will appear from various vantage points, and a simple set of specifications outlining the basic materials and structural concepts to be used. A scale model of the building can be very helpful in this stage of the project since it provides a three dimensional concept of the building.

It is important that an initial layout of furniture and equipment be provided so that the capacity of the structure for users, collections, and personnel, and their relationships can be equated with the requirements of the building program statement. The columns which delineate the modules or bays in the building also determine the spacing of furniture and shelving, and it is important to test these as early as possible. Any change in the size of the bays may be extremely difficult later when the structural system has been fully designed and the columns dimensioned to support the structure above and, perhaps, house part of the mechanical and electrical system as well. Since some architects prefer to postpone a preliminary layout of furnishings until a later stage of work, this initial layout of furniture in the schematic phase should be made a part of the architect's agreement.

At this point, it is crucial for the Project Team to analyze the various kinds of traffic which must be handled: (1) the public, (2) library materials, and (3) staff. This can best be done by tracing the paths of traffic flow on sheets of plastic overlaid on the floor plans. If a different color is used to represent each type of traffic, possible problems will emerge when the three overlays are superimposed on one another. Conflicts in traffic are a major source of irritation and delay in library operations. This is the phase in which they can best be worked out.

As another part of this first phase, the architect should provide outline specifications which, in a few pages, suggest the basic

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[47] Keyes B. Metcalf. *Planning Academic and Research Library Buildings.* New York, McGraw Hill Book Co., 1965. Pp. 49-65; 285-286; 387-389.

building materials and systems proposed for the structure. This is necessary since such items provide a further basis for arriving at an estimated cost for the building - the final step in this phase.

Since the schematic phase is, in effect, the conceptual or creative stage in the design process, it is of particular interest to the members of the Project Team. The art of reducing square foot requirements and space relationships into a well organized and efficient building is the architect's unique and primary contribution. Every effort should be made to provide the kind of atmosphere which will promote the architect's most creative efforts. Possessing the ultimate right to approve or reject the architect's work, the Project Team should encourage the architect to approach the design with full creativity and imagination. The imposition of artificial or unnecessary strictures at this point will limit creativity and block performance. Extra time spent in the schematic phase usually pays dividends in the form of better design and fewer changes in later stages.

III. THE DESIGN DEVELOPMENT OR PRELIMINARY DRAWINGS STAGE

Once the schematic design concept has received approval from the Project Team and the public officials, the architects resume work. The effort is now directed toward the refinement of the schematic plans. Modification of space sizes and space relationships occur as the plan is reviewed in conjunction with further elevation and engineering studies. These may be supplied by either the architect or by mechanical, structural, or electrical engineers retained by the architect. The building specifications are expanded and a detailed estimate is made as the preliminary stage is completed and readied for approval.

During this period the Project Team must give increasing attention to detail. Careful reading of the plans (see Chapter IX) as they evolve, and a visualization of the library operations in the projected surroundings should occur. The Project Team, and the library administrator in particular, will be called upon to make many decisions - some of which may require modification of certain concepts established in the building program. Such changes should be recorded in the minutes of the Project Team's meeting and reported to the Board. Beginning with the broad basic relationships, attention must gradually be narrowed to review how the more intricate operations of the library will work in the new building.

As evidence of having completed this phase, the architect will usually be prepared to submit for formal approval: (1) a set of drawings which include complete floor plans, elevations, and sections throughout the building to show basic structural detail, (2) specifications which describe the materials to be used in construction and the mechanical and electrical systems, and (3) a somewhat detailed cost estimate. In addition, the architect may submit a colored rendering if not provided as part of the shematic phase,

and/or a model of the project. The Project Team should conduct a formal review of these items, list their questions and comments, have those revisions made which will seriously affect costs and/or completion of the drawings, and submit the package to governing officials for approval.

IV. WORKING DRAWINGS AND SPECIFICATIONS

When the preliminary plans have received approval, the architect proceeds with the final refinement of the drawings. Every facet of the structure must be drawn in sufficient detail to provide the builder with all necessary information. The number of sheets in the set of drawings multiplies as the process continues with input from the various engineering consultants. Where before it was possible to consider several possible solutions to a given design problem, it now becomes necessary to make hard decisions on each and every item. While the Project Team will continue to monitor the progress of the drawings, special attention will be required, for instance, in the placement of each and every electrical outlet. Since the location of furniture and equipment will often determine the location of electrical outlets, it becomes imperative to agree upon a master furniture layout. In addition, every workroom and office must receive attention. Which ones should have built-in cabinetry? Which will have movable furniture? Where will electrical outlets be? Is special lighting necessary? Are doors and other openings in the best possible locations? Do the offices and workrooms offer an environment for efficient work habits? Can staff move from one area to another without walking through offices and work areas? These and countless questions of similar nature must be raised and answered as the process of analysis continues.

As part of the working drawings, the architect will introduce elevations of the interior and exterior walls in the building, providing an opportunity to further visualize all of the areas. Descriptive lists called "schedules" will be worked out which detail the size and type of doors selected for each opening and the kinds of materials to be used on walls, floors, and ceilings, including the colors recommended. The finish schedule is often supplemented by a color and finish palette which includes swatches of the various wall covering materials suggested for use, and paint samples. This is a most exciting step for, in effect, the Project Team can visualize the new structure in color and in texture.

The complete set of working drawings for all but the smallest projects will be made up of sheets usually numbered in the lower right hand corner and covering both architectural and engineering drawings. Architectural drawings will be numbered A1, A2, etc.; structural drawings will be numbered S1, S2, etc. While the order will vary from architect to architect, the sets will normally include sheets coded as follows:

Code:

None A cover Sheet which may include the index or other miscellaneous information.

Code:

None	An Index Sheet if not on Cover Sheet
C	Site Survey showing topography, structure to be demolished, utilities to be moved, etc.
A	Architectural Design: floor plans, elevations, sections, doors, and finish schedules, etc.
S	Structural: framing details, foundations, beams, slabs, etc.
M	Mechanical: heating, air conditioning, air handling, etc. (Plumbing may be combined with Mechanical, especially in smaller jobs.)
E.	Electrical: lighting, wiring, communications, telephone, etc.
F	Plumbing: piping runs and fixtures, etc.
F or D	Furniture: layout of furniture, design of casework (cabinetry), carpet laying plan, etc.

The number of sheets will vary depending upon the design requirements, site and other factors, as well as the individual architect's methods. However, for a project in the 8,000-10,000 square foot range you can expect the working drawings will number more than 30 sheets. A 50,000 square foot building, on the other hand, may require 75-100 sheets. The librarian will need to be thoroughly familiar with each of these sheets.

The specifications during this period will grow from a few pages to a large volume, often consisting of several hundred pages. These specifications describe in detail the conditions and requirements of the construction contract, the scope of work broken down by trade, and each item of material and equipment, with brand names specified where necessary.

The importance of the specifications is sometimes overlooked by the library administrator even though they are required by law.[48] Admittedly, they are hardly recreational reading and much of what they contain will be of limited interest. Yet, thorough familiarity is still called for because vital information is included, and because the specifications may take precedence where a conflict between the plans and specifications occurs. The completed specifications will begin with the bid forms and the contract documents, usually including the standard AIA document, *General Conditions of the Contract*, plus any specific additions or amendments meant to govern

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[48] *Wisconsin Administrative Code section Ind. 50.12.*

the performance of the building contractor. Following this section, the Technical Sections will be inserted in Divisions. Listed in a Table of Contents, the various Divisions in a typical set of specifications may include:

Division 1 - General Requirements
Division 2 - Site Work
Division 3 - Concrete
Division 4 - Masonry
Division 5 - Metals
Division 6 - Wood and Plastics
Division 7 - Thermal and Moisture Protection
Division 8 - Doors and Windows
Division 9 - Finishes
Division 10 - Specialties
Division 11 - Equipment
Division 12 - Furnishings
Division 13 - Special Construction
Division 14 - Conveying Systems
Division 15 - Mechanical
Division 16 - Electrical

The package, consisting of the complete set of working drawings, the specifications, and certain legal forms, comprises the bid documents. Before these are approved, the library administrator must go over each sheet and page to make certain that everything is as it should be, since these constitute the exact provisions by which the library will be remodeled and/or constructed.

V. COST ESTIMATES

Throughout the planning phase, attention will be paid to keeping the project on course so far as the project budget is concerned. As part of each phase, the architect will prepare and submit an estimate of cost based on a take-off of the quantities of materials and the cost of labor required from the various trades. While this is a normal part of the architect's responsibility, a second estimate is often desirable. This can be obtained by submitting plans and specifications to a construction cost engineering firm whose business it is to understand the materials and labor market and apply this knowledge to the estimating process. Where budget conditions are extremely tight, the services of the construction cost engineer can often provide reassurance and assistance. One of the other services provided by such firms is assistance in value engineering which helps determine the most appropriate solution to design problems in terms of first costs, maintenance, operational costs, and the expense of future changes. Bringing this viewpoint to bear can be worth many times the fee involved. If a construction cost engineer is to be considered, he or she should be brought into the picture as early as possible to maximize the value of the input. Paul Silver, a principal in the firm of Gruzen and Partners, AIA, New York, has said that:

Value engineering. . . is a necessary tool for determining the appropriate application of design to a building problem. There is a terrible tendency to design a building on the basis of "first cost" and not to look at operating costs, maintenance costs, and the cost to change. The various alternative solutions can cost more initially, but may cost less to run; or alternative systems could cost less initially and more to run. All of these factors have to be weighed and someone has to make a judgment.

I think it is a professional's responsibility to present the facts and make a recommendation which he feels he would like those people who are in the decision making role to accept.[49]

VI. THE BID DOCUMENTS

The bid documents, or bid package as it is sometimes called, consists of certain legal documents required by local, state, and/or federal government, plus the complete set of working drawings and the full set of specifications after they have been revised in accordance with review by the Project Team and the jurisdiction's building official and fire marshall. Once the bid documents have received the formal approval of the jurisdiction's official body, the project is ready for bidding by building contractors. This is covered in Chapter XI. The library administrator should request and retain a set of the bid documents for subsequent use. Bid documents are covered in the *Wisconsin Statutes*, Chapter 66.29, while bidding procedures are set forth in Chapter 62.15. Among other items likely to be included in the bid documents are the following:

1. Notice to contractors which, in effect, is the advertisement for bids.

2. A brief description of the project to be bid.

3. Detailed instructions to the bidder.

4. A form for submitting the bid.

5. A form on which the bidder lists the contractors who would be involved.

6. Various affidavits required by the state or the local jurisdiction.

7. A form for a bidder's bond if required (such bonds may cover "faithful performance, material, and labor, etc.").

8. The actual contract agreement form.

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[49]Holt, *op. cit.*, p. 64.

9. The general conditions of the contract for construction which is frequently AIA Document A201, submitting other such general conditions as may apply to the particular job.

These are normally bound into the front of the book of specifications.

VII. SUMMARY

Architectural implementation and development consists of a series of preliminary plans, emerging finally in a set of bid documents containing the working drawings and specifications. The Project Team members, and the library administrator in particular, must be constantly aware of the plans and carefully review each succeeding generation of drawings, making recommendations for change as necessary. The specifications also hold importance and should be read carefully. Cost estimates made by the architect may be compared to figures submitted by a construction cost engineer who, for a fee, will provide a separate figure and also assist in the complex field of value engineering to achieve the best possible balance between first costs and future costs for maintenance, operations, and future changes. A set of the bid documents should be retained by the library administrator for use during construction and thereafter.

CHAPTER IX

PLANS ANALYSIS

During the architectural design stage the Project Team will spend a great deal of time analyzing the drawings prepared by the architect. Numerous books in the library's collection will provide helpful information on the reading of blueprints.[50] Books on mechanical drawing, drafting, and the building trades frequently contain material of this kind. The purpose of this chapter is to provide an introduction to the skill of reading drawings and a discussion of how the plans analysis process can be approached for best results.

I. BLUEPRINT READING

Skill in reading blueprints can be acquired with study and practice. It requires an understanding of the tools used in producing the drawings, a knowledge of the various types of drawings, and their purposes.

A. WHAT IS A BLUEPRINT?

Drawings prepared in the office of the architect and engineer are drawn by draftsmen on a special translucent paper using black ink or a drafting pencil. These drawings serve as masters and are fed into a blueprint machine to make copies. The copies may be produced in blue, black, or brown ink on white background but are commonly referred to as blueprints regardless of their color.

B. TYPES OF DRAWINGS

There are various types of drawings, but the four which the library administrator will encounter most often are (1) floor plans, (2) elevations, (3) sections, and (4) detail drawings. Each has a particular purpose and must be read for the information it can provide. The floor plan will tell you where specific functions will occur and the spaces they will occupy. Elevations show how walls will appear, where doors, windows and other openings will be arranged, and other details of this nature. The section drawing is used to illustrate an imaginary slice through the structure to reveal details of construction from foundations and slabs to columns, ceilings, and roof structures. Detail drawings, on the other hand, are used to blow up small areas into a larger scale to show how structural materials and components will be put together, especially where unusual conditions prevail.

C. SCALES

The one tool required for reading bluprints is an architect's

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[50] See bibliography for references.

scale. Architect's scales come in both a triangular and a flat shape. They are divided into proportional feet and inches so that you can read dimensions directly from the plans once you know the scale at which the drawing was made. Your architect's scale is an absolute requisite - something you will want to carry with you wherever your plans are to be discussed. A scale which provides for 1/8", 1/4", 3/8", 1/2", 3/4", and 1" is preferred. Most floor plans are executed at 1/8", especially during the early stages of drawing. Larger scales are apt to be used when plans are better developed, and details, or blow-ups of particular elements, are shown.

D. SYMBOLS

Because of the small scale at which drawings are made and the mass of information included therein, symbols must be used to represent standard details. As the plans advance, a sheet or more of symbols will usually be provided. However, any good book on drafting or mechanical drawing will usually list the most frequently used symbols and these should be committed to memory to save time in referring back and forth to a key.[51] Symbols can be divided into those concerned with architecture, electrical, plumbing, and mechanical. A list of frequently used signs and symbols is also shown in Figure IX-1.

E. READING THE BLUEPRINT

The purpose of reading a blueprint may be to ascertain certain facts about a given plan or to visualize the completed structure. Depending upon the accuracy and completeness of the mental picture, the blueprint reader will be able to ask or respond to specific questions. When properly read, a blueprint ceases to be just so many lines and symbols and emerges as a clear-cut picture, limited in detail only by the completeness of the drawings and the viewer's ability to interpret them.

A few simple guidelines might be in order:

1. Read all the legends, noting special symbols, scales, and other information which the architect thought of sufficient importance to include.

2. Orient the plan to the site, noting compass direction which is usually indicated by an arrow on the site plan; floor plans are generally oriented so that the front of the building is drawn toward the bottom of the sheet.

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[51] A fairly extensive list will be found in: Charles G. Ramsey and Harold F. Sleeper. *Architectural Graphic Standards*. New York: John H. Wiley & Sons, Inc. (various dates and editions)

FIGURE IX-1

FREQUENTLY USED SIGNS AND SYMBOLS*

ARCHITECTURE/DRAFTING

Section flag

Room designation no.

Door no.

Detail: (see detail drawing 6 on sheet 11)

ELECTRICAL

Duplex receptacle-wall

Duplex receptacle-floor

Ceiling light-indandescent

Same-recessed in ceiling

Ceiling light-fluorescent

Same-recessed in ceiling

Telephone outlet-wall

Telephone outlet-floor

Television outlet

Fire alarm

Paging system

Door bell

Door buzzer

Exit light

Emergency light

Dimmer switch

Eectrical panel

Wall clock

Junction box

Wall switch

MECHANICAL (Heating, Ventilating and Air Conditioning: (HVAC)

Supply duct; outside air

Exhaust or return air duct

Ceiling diffuser

Ceiling diffuser

Linear ceiling diffuser

Thermostat

Floor register

PLUMBING

Water Closet (W.C.)

Urinal

Drinking fountain

Lavatory

Water Heater

Floor drain

Hose bib

*Some variation in use will occur but these are most common.

3. Take some time to become generally familiar with the plan as a whole without bothering to interpret symbols; get the overview firmly in mind before proceeding with details.

4. Locate all exterior entrances and see how they relate to (1) the site, pedestrian traffic, vehicular traffic, and parking, and (2) the major areas of the interior.

5. Locate the primary areas in the interior of the building: circulation desk, bookstacks, adult reading area, children's rooms, and other such areas.

6. Note the paths of horizontal and vertical traffic as indicated by hallways, stairs, elevators, and aisles.

7. Study the location of restroom facilities, drinking fountains, and the mechanical rooms which will house the heating and air handling systems.

8. Trace the flow of traffic which will be created by (1) the user, (2) library personnel, and (3) library materials during the normal course of activities and determine where areas of congestion are most likely to occur and where unnecessary space may have been provided.

9. Using your scale, measure all areas carafully, calculate seating and stack capacity, and evaluate this information in terms of the building program requirements.

II. PLANS ANALYSIS

Once the techniques of blueprint reading have been mastered and the basic guidelines to interpreting blueprints are understood, detailed plans analysis can begin. This involves constructing a mental picture of the library building in all of its complexities. At first, some general questions can be addressed, then the drawings may be reviewed from various vantage points. A checklist of specific items to be studied will be helpful. Finally, a detailed comparison of the plans with the requirements established in the building program statement is in order. A comprehensive list of questions and comments should be prepared as part of the plans analysis process. This list becomes the basis of discussion with the architect, and every item should be fully resolved during these conferences.

A. GENERAL QUESTIONS FOR PLAN STUDY

The adequacy of the planning can generally be ascertained by reviewing the drawings against a number of basic questions such as those which follow:

1. Does the building function? Are the areas properly related and does the movement of public, staff, and materials seem natural and convenient? A plan which does not read well in these details will probably produce a structure which does not work well either.

2. Will the person entering the library be able to quickly identify the location of major functions and collections without assistance?

3. Can users move from the entrance to the most popular sections of the library without walking through quiet reading areas, etc.?

4. Are the distances between the locations of related functions reasonable? For instance, how far must you walk to reach the card catalog from the reference or circulation desk? Will you have to dodge columns or other major obstacles every time you make such a trip?

5. Are proportion and scale well conceived: do heights, widths, and lengths seem appropriate in terms of materials and/or services to be housed? Are distances between related functions correct?

6. Are the various areas well defined and clearly delineated? Have wall surfaces been used to fullest advantage? Does the placement of windows have relevancy to the site and interior functions? Will windows produce uncomfortable glare or transfer heat and cold to the interior?

7. Does the building seem to be assuming a special character, and if so, is it in keeping with its use as a library? Or does it look more like a supermarket or office building?

8. Is the detailing clean, using a carefully chosen palette of materials selected for their utility and appearance in library usage? Will they be easy and economical to maintain?

B. EVALUATING DRAWINGS FROM VARIOUS VIEWPOINTS

As part of this reading process, it is helpful to try on a variety of hats representative of those who will use the library. For instance, mentally return to the outside. Now approach then enter the building as an adult patron on his or her first visit. Did you find it easy to identify the building as a library from the outside? Was the entrance convenient and attractive? What do you first see when you enter the building? Can you find your

way around the building with a minimum of false movements or questions of staff? Was it obvious where you should (1) return books, (2) register for services, (3) check out materials? How far must you go to reach the card catalog or to speak to a librarian? Are there display facilities to catch your eye as you look around the library? How far must you walk to find material on any particular subject? Where are special services such as audio visual, meeting rooms, and offices located? By honestly answering such questions you can soon discover how well the library will function in the user's eye.

Now, return again to the outside and repeat the same process, changing the questions as appropriate to represent the viewpoint and needs of young people and children. Is the building equally attractive and efficient for all ages? What about the handicapped? Try a mental wheelchair tour, or cast yourself in the role of a person recovering from a heart attack or other ailment which limits physical activity.

After playing out the part of the user in all the varied forms, look at the building from the vantage point of staff. Try it first as a circulation clerk. How far must you walk from one station to another? Where do people return overdue materials? What is done with all the books that are returned? Is it easy to give directions to those seeking a particular desk or part of the collection? How much of the library's public spaces can be visually supervised? Does the circulation desk provide sufficient space for all the equipment and files which must be used? Is it possible to handle switchboard operations (if placed here) while waiting on customers? How close is the circulation workroom?

Try the same tactic in the guise of each staff member. Where are the materials which must be consulted most frequently? How far is it to the card catalog? Can directions be given easily? Will conversations with patrons be disturbing to readers? Are there physical obstructions to visual supervision of reading and stack areas?

Go behind the scenes now and ask yourself similar questions from the vantage point of the cataloger. Where do shipments enter the building? How will they be routed through the technical services area? Is the central card catalog close at hand or will it require long trips? Will it be necessary to have a duplicate union catalog? Is there ample working space and room for all the files needed? Is the natural flow of materials through the workroom facilitated or inhibited by size, shape, design, or special obstacles in the room?

Thus, in turn, take the position of each staff member from page to the library administrator and carefully review the normal activities as they would occur in the new surroundings.

Pinpoint trouble spots and place these on the list of things to be resolved in conferences with the architect.

Don't forget the pages and the custodians in the review. Over the years their services account for a respectable portion of the budget and a few steps saved may mean important savings in time and manpower. Determine how a book returned at the circulation desk will find its way back to its proper place in the shelves. Are there sufficient holding and sorting shelves and are they convenient? Is there ample storage for book trucks at convenient locations? Where will the page receive daily information about schedules?

Does the custodian have ample storage closets for supplies and equipment located in reasonably convenient places in the building? Have wall and floor coverings been selected for easy maintenance? Does the custodian have sufficient space to do all required work, including a shop if minor repairs to furniture and equipment are a part of the duties? Is there easy access to the restrooms so that periodic inspections and cleaning can occur as necessary throughout the day without transporting mop buckets and cleaning materials through public areas? Have sufficient provisions been made to minimize tracking in snow and mud? Are walks equipped for snow and ice removal by automatic means?

C. READING THE WORKING DRAWINGS AND SPECIFICATIONS

The working drawings and specifications represent the last opportunity the Project Team will have to critically analyze the plans. In addition to applying all of the steps discussed above, the structural, mechanical, and electrical drawings must be mentally integrated with the architectural plans. The first step is to make a cursory review of all the sheets so as to become fully aware of the total package. Then, beginning with the architectural drawings, the plans should be approached as if they had never been seen before. Each detail should be checked and assurance found that previously approved changes have been made.

Members of the Project Team must mentally enter each room, facing the four walls in turn to determine whether or not everything is as it should be. The door and finish schedules should be coordinated with this part of the plan check to make certain that each surface is receiving the treatment agreed upon. The door schedule should be reviewed to make sure that each door is the type requested for a given opening, that it opens the correct way into the room, and that kick plates or other special hardware has been called for where appropriate.

Once the architectural drawings have been checked, begin the review of the next section - usually the structural drawings. It is not necessary to understand all of the details

shown. However, some of the information, such as the detailing of columns and other finish work, will be important.

The electrical engineering drawings are usually next in the set. These include sheets for lighting, power, and communications. Interpretating these drawings requires an understanding of the many symbols used to show various types of lighting fixtures, switches, circuitry, electrical outlets, and communications equipment. The location of every electrical outlet (duplex convenience receptacle) must be checked. Are they properly located in relation to the equipment which will be used? Has provision been made for future floor and wall outlets? Have outlets been placed in strategic locations along corridors and in entrys for use of the custodians? Using the list of symbols, each of the electrical and communications devices provided must be identified. Do telephone outlets coincide with furniture layouts? Is there provision for a public telephone? Are clocks located where they can be seen easily by staff and public? Are door buzzers, alarms and other signal devices properly located? What provision has been made for a public address system? Do speakers cover all public and non-public areas and are they properly zoned? Have dedicated telephone and electrical lines been provided for computer terminals, teletype machines, facsimile equipment, and any other communications device requiring interference-free service? Where are smoke/heat detectors and fire alarms located?

The mechanical plans concerned with heating, ventilation and cooling are next in order. While the Project Team may have little basis for questioning the equipment to be used, there is every reason to review the placement of the registers and diffusers which control the movement of air through the building. Located too close to a staff desk or to public seating, the ducts may create annoying drafts. Absence of diffusers in a room should also be questioned since this may result in stagnant air.

Unless they are a part of the mechanical drawings, plans for the plumbing ordinarily follow. Here, the plan check should determine whether sinks have been properly located in work areas. It is especially important to make certain that floor drains have been supplied in all restrooms and wherever water damage can occur from clogged fixtures. Protection of piping against freezing should be clearly provided. Clean-out fittings should be specified in convenient locations for all fixtures.

The mechanical drawings will also indicate whatever provision may have been made for automatic snow removal from sidewalks, entrances, and drives. The operation of such systems should be understood and the Project Team should determine that the system does apply to all walkways designated to be kept clear of snow and ice.

Working drawings may also include sheets detailing casework (cabinetry and counter work) which must be carefully checked against the requirements established by those who will utilize these furnishings. If graphics and signs are shown in the working drawings, they must be checked for size, proper spelling, locations and wording. Signs must also conform with the special provisions of signing for the handicapped.[52]

After the plans have all been analyzed, the specifications must be read. This compilation of technical information governs the choice of materials, the performance of the various trades working on the building, the standards or grades of fixtures, and the conditions of the contract between the owner and building contractor. While much of the detail will be of limited interest, key facts will emerge to supplement what has been learned from the drawings. Comparing the specifications and the drawings is necessary to determine whether all of the items called for in one are indicated in the other. Since the specifications may take precedence over the provisions in the drawings, whenever a conflict occurs all apparent discrepancies should be resolved at this point.

III. PROGRAM COMPARISON AND FUNCTION REVIEW

As part of the plan review process, the requirements set forth in the building program statement must be checked against the provisions of the building design. While it is seldom that the two will coincide exactly, the differences should be acceptable. The purpose of the following paragraphs is to: (1) identify some of the key areas requiring layout analysis, (2) offer quidelines and questions to help in your plan review, and (3) provide additional information on specific criteria in certain areas for estimating space needs.

A. SPACE REQUIREMENT FULFILLMENT

The most obvious comparison, perhaps, is in terms of total square footage. Simple measurements can easily determine the number of square feet in the drawings of each of the major functions established in the program. Where a substantial difference is found, a reason should be sought. Were program calculations wrong? Has there been an agreed-upon change in requirements? Has the size of the module (see discussion in Section I of Chapter VIII) influenced design and caused more or less space to be used? In any case, such discrepancies deserve the attention of both the Project Team and the architect, and should be resolved.

Of course, the number of square feet in any area is important

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[52] *Wisconsin Administrative Code Section 52.04 (9).*

only in that it is an indication of whether or not the space will contain the required materials, users, and staff. Since space calculations used to prepare the building program statement are based on estimates, there is bound to be some variance in actual layout of furniture and equipment within a space of given size and shape.

B. COLLECTIONS AND STACK AREAS

Since the amount of materials the new building will house is crucial, special attention should be given the layout of bookstacks. Given the number of volumes established in the building program, and knowing the arrangement to be followed, the capacity of the bookstacks should be calculated. The first step is to determine the number of bookstacks in each area and its capacity. Be sure that you know the height of each range of shelving planned for a given area because this will be a major determinant of capacity. Sometimes it is helpful to make a simple table for each area, based on the height of the shelving, the number of shelves to be used, and the number of single and double faced ranges. Accuracy in counting means everything. Once the number of single and double faced section has been determined, multiply by the book capacity per section. Compare these calculations with the requirements established in the building program. If the requirements have not been met, this becomes a problem meriting immediate attention.

If the total figure does not correspond with those in the program, adjustments must be made. This can occur in two ways: (1) through the addition of more book shelving, and/or (2) by increasing the number of volumes to be shelved per foot, thereby reducing the expansion factor. For a more complete discussion of bookstack capacities, see Metcalf's comments and tables.[53] In addition, the research of Francis Joseph McCarthy on the relation of human mechanics to library furnishings and equipment will provide valuable insight on the usefulness of various dimensions most suitable for bookstack and other items of equipment and furniture.[54]

There are a variety of questions to be asked regarding the collections and stack areas. Are the collections located in reasonable proximity to seating? How far will staff members have to walk to the more frequently used portions of the collections? are there breaks in the shelving which will upset collection continuity? Can wall shelving be used effectively? Are there more than 10 three-foot sections in a range (other than wall shelv-

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[53] Metcalf, Keyes, *op. cit.*, pp. 152-157, 393-396.

[54] McCarthy, Francis Joseph. "Human Mechanics in Relation to Equipment," in *Planning Library Buildings for Service*, edited by Harold L. Roth. American Library Association, 1964

ing)? Can shelving be rearranged for more effective use of space? Will the staff be able to supervise the stack area from their desk positions? Are the aisle widths between ranges not less than three feet, and preferably more?[55] Have transverse aisles been used effectively or do they require more space than is necessary? Do light fixtures run at right angles to the shelving (preferred) to provide maximum illumination of lower shelves? Are there at least three, and preferably four or more, feet of aisle space at the end of each range to provide turning space for pages with book trucks? Are there any blind aisles which lead nowhere? Is column spacing advantaeous for the placement of bookstacks? (Hopefully, any problem with the spacing or columns will be caught at the earliest possible opportunity since this is such an important factor in the work of the structural engineer.) The loss of stack area by improper spacing of columns can be impressive, especially in larger buildings.

If the collections are to be housed on more than one level, or if the technical services area is on a level other than that occupied by the bookstacks, what kind of vertical transportation has been supplied? Where are the elevators, conveyors, book lifts, or dumb waiters located? Is there ample clear space in front of them for a booktruck and worker? What is their capacity in terms of loaded book trucks? Will pages have to maneuver their trucks through major reading areas and/or around major obstacles in the pursuit of their duties? Again, your own building program and methods of operation will help you pose many more questions for study.

C. SEATING

A similar set of calculations should be used to compare the provision of seating with the requirements stated in the building program. Once the number of seats has been figured, various questions should be asked. Is the seating attractively arranged? Will natural light sources produce glare at any time of the day or year? How effective is the relationship between seating and collections? Can the seating area(s) be easily supervised by the staff from their regular stations? Is there sufficient spacing between tables to permit a person to pass between the tables when adjoining seating is occupied? Are aisles wider where they adjoin seating? Is it necessary for users to walk through seating areas to reach the stacks? Are the tables standard in size?[56] You may also want to refer again to the insights provided on library

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[55] While wider aisles are more convenient, especially for the handicapped, they are not *required* as of this writing.

[56] See the discussion in Metcalf, *op. cit.*, pp. 117-119, keeping in mind that his comments are for a university library.

seating by Robert Sommer.[57] In analyzing the seating, take note especially of the number of people seated at various sizes of tables and carrels, and in lounge seating. Is this distribution compatible with your analysis of community use and preference? Are there sufficient accommodations for the physically handicapped? A sizable portion of the library building is occupied by seating. Therefore, every effort must be made to see that reader accommodations are appropriate in number, type, and arrangement to encourage maximum use.

D. THE ENTRANCE

The entrance to the library is the key to the building. Looking at the architectural drawings, note how the entrance connects the exterior with the interior. Will it be obvious to passers-by and would-be users that this, indeed, is the entrance? Is it reasonably accessible to pedestrians and those coming by car? Will drop-off traffic be safe in alighting from vehicles? Are there unnecessary obstacles to be avoided in the approach? Will the physically handicapped have any difficulty in getting into the library from the curb, sidewalk, or parking lot? What provision has been made for snow removal from parking lots and sidewalks? Is the entry shielded from prevailing winter winds? If separate entrance and exit doors are used, are they clearly distinguishable?

Looking at the inside of the building from the vantage point of the entrance, will the users be able to orient themselves easily to their surroundings? Is it easy for the user to determine where books should be returned, registration occur, and materials checked out? Will the users see both staff and materials as they enter? Is there room for bulletin boards and display cases near the entry? Can coatracks and umbrella stands be made available with little effort? Is there seating nearby for people waiting to be picked up? Will noise generated in or near the entry disturb users elsewhere in the building?

The entrance should present a positive relationship between the exterior and interior of the building, and should have strong architectural appeal, inviting people to enter.

E. THE CIRCULATION DESK

Unless otherwise agreed, the circulation desk is usually considered to be a basic part of the building and will be designed by the architect or interior designer. While the configuration of the desk may change as planning proceeds, its general location and relationship to the entrance and basic functions should be

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[57] Sommer, Robert. *Personal Space: The Behavioral Basis of Design.* Prentice Hall, 1969

established very early. While prominent enough to command recognition of those entering the library, it must not create a barrier - physical or psychological - to the would-be library user. In this regard it is useful to remember that the purpose of the circulation desk is to provide space for staff, equipment, and users involved in those record-keeping operations which enable the library to keep track of library users and the materials they borrow. If possible, both adult and juvenile borrowers should be served at the same desk to reduce personnel costs and assure efficiency in use of equipment. Since staff, public, and materials tend to converge at this point traffic control is important.

1. RELATION TO ENTRANCE-EXIT

Except in very small libraties, the public should enter by one door and leave through a separate but adjacent door. Automatic sliding glass doors, protected from the weather, should be used if possible to provide maximum convenience to users entering and leaving with arms filled with books, notebooks, briefcases, and other hand-carried items.

Traffic is usually best controlled by using an island circulation counter, with the various functions carefully positioned along the perimeter. The island arrangement permits users to enter along one side of the desk where they can return books, etc., and leave by passing along the opposite side where checkout occurs. The center of the desk is then used for registration and special services such as the pick-up of reserve books, etc. In larger libraries there is a great temptation to divide the desks and the functions. Until a library reaches such size that the volume of work justifies the additional staff required by this configuration, it is more economical and efficient to maintain a single island circulation center.

Looking at the layout, you will want to determine:

a. Are the functions at the circulation counter logically arranged so far as the user is concerned?

b. Is the circulation counter clearly a command post which the user can easily and instantly identify?

c. Is there adequate room at the circulation desk for the required number of staff, necessary equipment, files, and the movement of materials?

d. Does the electrical plan show sufficient outlets properly located?

e. Is there room behind the circulation counter for the book trucks needed to handle returned materials?

f. Has sufficient space been provided for users in front of the counter for registration, payment of fines, and checkout?

g. Does the shape encourage users to form lines when more than one person is waiting for service?

h. Can a telephone switching unit be operated easily by a clerk who is simultaneously performing other duties such as checking out books?

i. Has conduit been provided for a future computerized circulation system?

j. Can the activities occurring at the circulation counter be easily supervised by the person charged with this responsibility?

k. Can users discuss problems over fines and lost books beyond earshot of the general public?

l. Has enough depressible book bin space been supplied to contain the anticipated accumulation of returned books?

m. Has the return book area been designed to assure the user that once a book has been released it will not be easily available to some other borrower until is has gone through the check in process and cleared from his or her record?

n. Is there enough room for handling reserve books and interlibrary loan materials?

F. THE CARD CATALOG, INDEXES, AND BIBLIOGRAPHIC TOOLS

If possible, the card catalogs, bibliographic tools, and periodical indexes should be consolidated into a central card catalog and index center. Considerable time will then be saved by staff and users alike. These tools should be placed reasonably close to the circulation or information desk where people will take their questions.

In figuring card catalog requirements, a fairly simple series of calculations will provide reasonable estimates. Simply multiply by five the number of non-fiction titles you anticipate the library will own 10 or 20 years hence. This allows an average of five cards per title. Divide this number by 1,000 (the average

number of cards per tray) and the resulting quotient represents the number of card catalog drawers necessary. Repeat the calculations for fiction using three cards per title. To determine the number of catalogs required, you must first decide on the size of the units to be purchased. Smaller sectional units are usually five trays wide, while the 60 and 72 drawer units are six drawers wide.

Note, also, how much space has been provided for consulting the catalogs. Except in the very small library, the typical pull-out drawer arrangement will probably be inadequate. Therefore, tables between or adjacent to the catalog units are recommended. They should be counter height and located far enough from the catalog units to permit use of both without interference; a space 36 inches wide between catalog and consulting table is considered the minimum.

Since the card catalog may be superseded in many libraries by other types of catalogs ranging from micrographics and book catalogs to computer terminals, it is important that the space designed for the card catalog can be adapted to other forms of collection indices. This includes access to floor mounted electrical and/or telephone outlets and a reasonable amount of space for microfilm readers, book catalogs, or computer terminals in a proper environment. If microfilm readers or computer terminals are to be used. it should be possible to lower the lighting levels as well.

The card catalog-index center area is subject to congestion so the layout should be reviewed in light of traffic, noise, and ease of access to adjacent collections.

G. THE ADULT AREA

If possible, seating and stack areas should be broken up. Large blocks of reading tables will increase the likelihood of conversations between readers and thus contribute to discipline problems. Be certain that all areas fall within the natural range of visual supervision.

The adult collections should follow a logical sequence with as few interruptions in continuity as possible. If there is a separate reference collection, it should be clearly identified so that users can find it. Current periodicals and newspapers should be displayed in the most attractive manner possible. Most readers of periodicals appreciate lounge seating.

Special materials such as documents, pamphlets, mounted pictures, and microform will need to be reasonably close to the librarian since some help in their use is often required. Similarly, the reference tools, especially encyclopedias, dictionaries, and other frequently used titles, must be near the desk.

Periodical backfiles are best located near the index center for both staff and user convenience.

An analysis of the traffic flowing through the adult area is a handy way of determining how effective the layout may be. Using felt pens, trace with a separate color the traffic pattern for the user, staff, and materials. User A, for instance, may enter the room and go directly to the periodical reading area, while User B, after asking a question of the librarian, is referred to the section containing the books on architecture. User C enters and goes to various parts of the bookstack to browse; after accumulating an armful of books he takes them to a nearby table for examination and study. User D asks the librarian a question and both go to the section containing books on business. A telephone call sends the staff member back to the desk and then to the card catalog, followed by a trip to the psychology section then back to the circulation desk. Another call takes the staff member to the reference section. User E asks for help at the card catalog and is then shown some pamphlet materials in the vertical files. Two more users enter together and seat themselves at a table in a secluded area to study, using material from an adjacent bookstack. At this point a page enters with a book truck to shelve returned materials in the 800 and 900 classifications. By continuing such a scenario you can analyze whether or not all of the critical elements are laid out in the most convenient fashion. This exercise should involve all the members of the staff.

H. THE CHILDREN'S AREA(S)

The children's area is subject to the same kind of analysis. Care should be taken to determine how well the staff can supervise the area. If there is a separate children's room, will the desk be obvious, but not foreboding, when the child enters the room? Is the internal arrangement of materials and seating logical and convenient for all? If separate restrooms are provided for the children, can they be easily supervised?

How does the area relate to the entrance of the library and to the adult area? Can parents leave their children without going through any area other than the circulation lobby? Does the children's room have a personality of its own? Are the spaces and furnishings designed with a child's scale in mind? Is there an adequate number of electrical outlets for the various pieces of audio visual equipment needed in this area? If there is a special room or area set aside for story telling (recommended), is it convenient so that children and classes can use it without interference with other library activities? Can children move in and out of the library safely? Is there a safe place outside for bicycles?

I. REFERENCE AREA

In the small library, the reference area will probably consist

of a few sections of shelving arranged close to the staff desk. One or more tables will be needed nearby for easy consultation. The reference area and catalog-index center have a natural affinity. In view of the increasing use of computer-based reference service, provision should be made for one or more computer terminals. Usually, these are placed in carrel-like spaces which accommodate a library staff member and the user during the period of search.

Where more space for reference materials is called for, the same basic requirements must still be met. In analyzing traffic, be sure users and staff going to and from other areas do not have to pass through the reference area. Combining reference tools, periodical backfiles, documents, and other materials of this sort, and relating these to the card catalog-index center, usually provides the most efficient arrangement for economical use.

J. REFERENCE OR INFORMATION LIBRARIANS' SERVICE DESKS

Where professional staff are to cover reference or information desks, it is important that proper accommodations be provided. This may consist of either a desk or counter. If a desk is used, such as a standard office desk, it should be double pedestal in size, with a conference top overhang. One or two chairs should be provided to accommodate users asking for assistance.

Depending upon the layout of furnishings, shelving, and storage of some sort should be supplied within reach of the librarian. Usually, this can be done by using a credenza for storage and a section or two of counter height shelving for materials. One effective plan is to create a "U" shaped arrangement behind the desk to which the librarian can turn without rising or taking any steps. The amount of shelving should be extremely limited for only a few titles are referred to with sufficient frequency to warrant placement here. These may include a dictionary, atlas, a one volume encyclopedia, almanac, and similar titles. Except in smaller libraries, consideration should be given to duplicating these titles so that they are available to the user in the regular collection sequence.

The location of the Reference or Information Desk will be a key determinant in its success. Is it readily visible to the adult user entering the library? Can directions be given easily to other parts of the library and collections? Will the reading areas be easily supervised from this location? Are the resources most frequently used close enough for efficient use? Can business conversations be carried on with users without disturbing nearby readers? Are there electrical outlets and a telephone connection available to the desk? In larger libraries, has provision been made for a future computer data base display terminal (CRT)? Will the light be adequate for prolonged reading of fine type in indexes and other tools? Does the desk face a window which may be a source of glare? Does the mechanical layout

insure proper diffusion of air without creating a draft problem over the desk?

K. AUDIO VISUAL AREAS

The nature, quantity, and variety of non-print materials, and program for handling audio visual materials will determine the arrangement of the collections and services. If the library is integrating audio visual materials with printed materials on the regular shelves, then wet carrels should be distributed for convenient in-library use. Since a staff member may have to assist the user now and then, it is important that these carrels be reasonably close to the service desk.

Where audio visual materials are maintained as a separate collection and service, user accommodations should be grouped nearby. Disc recordings can be stored in bins arranged as in retail stores. Depending upon the type of bin used, 10 to 17 discs can be housed per square foot of floor area; this includes the record storage bin and space in front of it for the user. 16mm films are best stored on regular film racks which can be adapted to standard library shelving. The number of films which can be housed in a given section of film rack will depend upon the size of the reel. About 25 films can be housed on a 36 inch shelf, normally with five or six shelves per section, usually 15 inches deep or about the equivalent of a double faced section of book shelving. For the purposes of estimating space, assume that each such section will house 100 films of various sizes. With a three foot aisle, this will work out to between seven or eight 16mm films per square foot. Between two and three times as many 8mm films can be housed in the same space. Film racks are best placed in the work area adjacent to the service or circulation desk, since selection must be made from a catalog or other printed materials, not from the film cans or reels.

Other audio visual materials require special attention and housing. Because they are a high loss item, many librarians prefer to house the tape cassettes at or near the circulation or audio visual service desk while the user makes his selection from a catalog. If a browsing unit is used, only the jacket or container may be displayed and the cassettes placed in a storage unit at the desk.

For framed art, some libraries arrange them on the wall around the perimeter of the room or on top of stacks. However, this is often inconvenient to staff and users alike. Large swinging panels designed by the architect or purchased from a commercial manufacturer can also be used. Another method is to create deep shelving with vertical dividers separating the space into compartments, each holding one or two paintings. While more paintings can probably be stored per square foot this way, public viewing is less convenient. Regardless of the method used the layout must provide

protection for the framed art collection, while maximizing the freedoms of the user to look over the paintings which may be available for home use.

If projection equipment is to be loaned, it should be stored where it is convenient for the user to pick up and carry out of the building. A storage closet placed next to the desk of the librarian responsible for this equipment may provide the best answer. Be sure that the closet is large enough for several projectors of various types to be stored without having to be stacked on top of one another.

In reviewing this layout, you will want to ask the usual questions concerning the relationships of materials, users, and staff. In addition, is there a small preview room nearby with screen and projector handy? Can the projector be supervised by a staff member in conjunction with his or her regular work assignment? Are record turntables and tape decks available within an easily supervised area? Will walls and ceilings be insulated for acoustical control? Has adequate workroom space been set aside for the processing and maintenance of all audio visual materials? Must traffic generated by audio visual services pass through other areas where readers are apt to be disturbed?

With video tape gaining increasing acceptance, space should be allowed for this media also. The amount and kind of space required will depend upon the library's commitment to video. If the library is limiting its program to the dissemination of video tapes through in-house use and/or through circulation to home users, then the amount of space will be determined by the number of video cassettes which are to be acquired and the number of monitors used in the library. Video playback can be achieved through standard television sets or monitors set on tables, portable stands, etc., or through audio visual carrels which have a built-in monitor. The library may want to use one or more of each of these means to permit flexibility. Television sets are often used when several individuals or a class wish to watch the same program; the audio visual carrel is more appropriate when video cassettes are used for instructional purposes.

Video cassettes can be shelved on standard shelving. Depending upon the width of the tape used, the manufacturer, etc., the number per linear foot will range from 10 for one-half inch format to about half that number for one inch tapes. For those libraries wishing to integrate their audio visual materials with the print collection, each video tape will be roughly equivalent to one volume.

For libraries with more aggressive video programs which include some production work, a small studio will be needed along with storage space for cameras, monitors, and other equipment. This can be as simple as using a conference or other public

meeting room to providing a separate video studio complete with special lighting, backdrops, set storage, and in the most sophisticated instances, a control booth. Lighting and acoustics are major factors in the design of a useful production studio. The sophistication of the library's video facilities may be partially dependent upon its role in the Community Antenna Television (CATV) program. If the library bears the primary responsibility for CATV, then its needs will be somewhat greater than otherwise. Because conditions and requirements vary so widely once a library enters the video production field, design and specific features must be worked out individually.

The entire audio visual area is a complex one and requires care in its layout. It is an area which is certain to grow. A great deal of traffic is generated by audio visual services, and adequate staffing is required. With these points as guidelines, the library administrator must project the eventual space requirements and the layout which will effectively serve the audio visual user's needs now and for 10 or 20 years hence.

L. SPECIAL COLLECTIONS

Some libraries will have collections of a nature meriting separation from other materials and services. This is most frequently true of local history and genealogy collections which may contain valuable and unique items. To protect these materials and to make them available to users under properly supervised conditions, such collections may be placed in a separate room or in a well delineated area. Special collections rooms or areas need to be viewed from both the user's and the staff member's vantage points. Does the location of the special collection, in fact, provide the desired protection and supervised access? Is the location so remote and the path of access so devious that legitimate use will be jeopardized? Is there enough room provided for collection growth? Are locked cases and locked vertical files available? Is there sufficient seating? Is there provision for staffing the area? Is the special collections area tied to the rest of the library by telephone? Have all the special items of furniture, equipment, and casework requested in the program been supplied? If a vault is called for, is it reasonably convenient? Has provision been made for displaying items of interest to call attention to the nature of the collection?

M. MEETING ROOMS

If meeting rooms of any sort are incorporated into the plan, special note should be made of their location, size, and furnishings. The nature, size and number of meeting rooms should, of course, be based upon a survey of such accommodations available to the public elsewhere in the community and the library's own program needs for such spaces. Is the room(s) easily available to the public without creating unnecessary traffic through the library? Can the meeting

room(s), including access to restrooms, be used when the library is not open? (This means that the library itself can be sealed off from the conference or meeting room(s).) Have kitchen, restroom facilities, and drinking fountains been provided? Are there ceiling mounted screens, and where possible, projection rooms? Can the corridors leading to the meeting room(s) be easily supervised? Will the room(s) comfortably seat the number of people indicated in the building program? Is the lighting appropriate? Is there special lighting above the platform and sufficient outlets for lights and equipment on and in front of the partform?

N. STAFF OFFICES AND WORK AREAS

The review of the layout of staff offices and workrooms should be thorough and detailed. Staff members should analyze their own areas and be encouraged to question the plans when doubts arise. Sometimes a staff member is so attached to one way of doing things that it becomes almost impossible to visualize any change. If work flow studies were not used during the development of the building program, they may be introduced now to encourage new thinking. (See Section IV. B. in Chapter IV.)

Offices and work areas should form a logical sequence and be arranged in a manner which is both convenient and efficient. Do offices or workrooms which carry on complimentary work relate well to one another? Are the workrooms which utilize the shipping and receiving area adjacent to that spot? Will staff in technical services be disturbed by public services staff going to and from their desk appointments and/or making telephone calls? Is the circulation workroom reasonably close to the circulation counter? Can the administrative office be found by a visitor without intruding upon the rest of the staff areas? Do staff facilities such as restrooms, kitchen, and lounge require a minimum of travel time from work stations? If there is a separate staff entrance, is it convenient to staff parking and to the workroom areas? Where are the staff lockers located and are they reasonably secure from intruders during the hours the library is open? Have adequate facilities been set aside for the preparation of displays? Is there space for storing infrequently used materials, large shipments of library and custodial supplies, and gift books awaiting evaluation?

The layout of furniture and equipment within each office and workroom should be carefully analyzed in terms of actual working conditions. Is the arrangement conducive to efficient work flow? Is there room for the growth in staffing and operations expected for the next 10 or 20 years? Do those who need privacy have sufficient protection from their immediate surroundings? Are there any enclosures provided which reduce flexibility of the space and inhibit normal work flow? Are counters and other work areas at the proper height? Have electrical outlets been placed for

utmost safety and convenience? Will the location of any outlet require an electrical cord to stretch across an aisle or a counter top? Are light fixtures properly placed to give maximum light without glare? Will windows introduce heat or glare at any time of the day and/or year? Are there reflective surfaces outside the windows which, if not screened, will produce visual discomfort within the building? Are air diffusers and returns properly placed for control of air circulation and drafts?

O. OTHER CONCERNS FOR ANALYSIS

In addition to the internal areas already discussed, you will want to review the plans against other provisions of the building program as well as from a pratical viewpoint. When the site plan is first introduced in the schematic phase, careful note should be taken of the orientation of the building to parking and pedestrian access. Is the orientation going to provide the kind of visibility the library should have to passing motorists and pedestrians? Will access to the parking lot pose safety problems for the motorist and/or pedestrian? Do the entrance and exit drives to the parking lot conform with the normal flow of traffic? Will delivery vehicles experience any difficulty finding and making their way to the shipping and receiving area? Can they return to the street safely? Does the building's orientation make the most of the site? Is the building set back from the sidewalk more than is necessary? Do neighboring structures and occupancies pose problems such as reflecting bothersome glare from their windows, transmitting excessive noise, introducing conflicting vehicular traffic patterns, or displaying offensive night time lighting and/or signing? How difficult will it be to keep walkways free of snow and ice? Will users of the library be unnecessarily exposed to the weather while walking from the parking area to the library entrance?

How will trash be collected and where will it be held awaiting pickup? Has shelter been provided for delivery vehicles? If a loading dock was requested, it is of suitable dimensions and properly located in terms of vehicular access and internal functions? Will exterior lighting be adequate for the safety of those using the parking lot as well as for pedestrians approaching the building? Have adequate roof gutters and storm drains been supplied to take care of snow melt and run-off water? Is water from gutters and other sources channeled away from walkways? Are walks and entrance approaches wide enough to meet the regulations for the physically handicapped? Does the landscaping plan enhance the building? Will shrubs, trees, and other plantings provided for in the landscape plan require undue maintenance and care? Has the safety of pedestrians and vehicular traffic been considered in the landscape plan?

Structural and mechanical details also require attention. If a flat roof has been designed, what assurance is there that

it will drain properly when heavy rain showers occur or when winter snows melt? Are skylights and other projections on the roof sufficiently elevated to be above the areas where water will collect before running off the roof? Even a so-called flat roof should have some pitch to encourage swift drainage. If a pitched roof is used, will accumulated snow threaten those passing on sidewalks and walkways? Are drains adequate? Are roof drains, gutters, scuppers, etc., apt to be clogged by leaves and/or other debris? Have adequate protective devices been designed into the mechanical system to avoid damage in the case of malfunction during severe cold weather? Has the water system been adequately insulated against freezing?

In those areas of Wisconsin where the water table is close to the surface of the land, special attention must be given the waterproofing of any part of the structure penetrating the site. This includes not only basements, but also mechanical equipment rooms and elevator shafts. If such danger of flooding exists, insist that all electrical switch panels and telephone equipment rooms are located above grade. Obviously, special attention should be given the waterproofing of walls and floor slabs. While the librarian and/or the Project Team members may not feel qualified as structural and mechanical engineers, they must understand the design and construction process sufficiently to ask questions such as these and to evaluate responses provided by the architect and the engineers.

Even a limited knowledge of engineering dynamics concerned with underground water can be helpful.[58] Ground water which follows the laws of hydraulics does not simply seep up against walls and foundations and then ooze through walls and floors. In effect, these structural elements act as a dam and create a hydrostatic head of water which, in turn, exerts pressure at the rate of 62 pounds per square foot times the height of the water level. In other words, if the water is two feet deep around the basement walls, the pressure exerted is 124 pounds per square foot. As a result, water seeps through permeable materials under pressure. A degree of buoyancy also results from this pressure and exerts itself on walls, foundations, and floor slabs. Because water levels rise and fall throughout the year, soil tests should be made when subsurface water tends to be highest at the particular site.

Where subsurface water exists it may be necessary to install underground drains, pumps, or other means of reducing the hydrostatic head of water. Walls and slabs should be waterproofed using such techniques as (1) installation of membranes

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[58] A good introduction to these problems is provided in the volume edited by John Hancock Callender, *Time-saver Standards for Architectural Design Data*. New York, McGraw Hill Book Co., Inc., 1974 pp. 351-359.

between the soil and the structure, (2) use of various water-proofing materials on the faces of walls and/or (3) increasing the impermeability of concrete by adding special compounds to the mixture when it is poured. The freezing of ground containing ground water creates even greater problems, especially during rigorous winters. The inexorable pressure of ice forming in concrete wherever moisture occurs creates cracks which widen year after year, inevitably leading to structural weakness. Familiarity with both the problem and various remedial procedures will enable the Project Team members to better evaluate the provisions made for the building.[59]

The questions are nearly endless - yet each adds something to an understanding of whether the library building's design is a satisfactory solution to the problems posed in the building program.

IV. SUMMARY

In comparing the library building program with the plans as they evolve, the library administrator must take great care in determining the exact quantities and capacities provided for in the drawings. Equally important is the ability of the various areas to function properly with respect to the relationships between the collections, users, and library staff. In reviewing staff offices and work areas, both the relationships of the various areas and the internal arrangements are of great importance. The site plan offers still other matters for review. Though this process is long and complex, it is the only way the library administrator can fully evaluate the ability of the building to function effectively and efficiently as a public library in the community for which it is designed. Particular attention should be paid structural details such as water-proofing where the water table is high enough to be a threat.

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[59] Foundations, bearing capacity, and force penetration are covered in *Wisconsin Administrative Code Section Ind. 53.30*, beginning on p. 107.

CHAPTER X

INTERIOR DESIGN AND THE SELECTION OF FURNITURE AND EQUIPMENT

Interior design is an important part of every building project. The selection of furnishings and the manner in which they are arranged, as well as the colors and textures of surfaces such as walls and floors, largely determine the public's attitude toward a building. Interior design also has a decided impact on recurring maintenance costs. The library administrator and the Project Team must, therefore, have an understanding of this subject.

I. THE INTERIOR - WHO IS RESPONSIBLE?

Responsibility for interior planning should be determined early in the building project. In many cases, the architect's experience and training - as well as preference - may make him or her the logical choice. However, because of the highly specialized knowledge required and the large number of materials, fabrics, coverings, and furnishings now on the market, a specialist may be used instead. Brought in at the early stages of schematic design, the interior designer will work with the architect on the layout of furniture and equipment, as well as the choice of materials, furnishings, and equipment. Where necessary, he or she will modify existing designs and have new items of furnishings produced for approval by the Project Team. As the initial studies are completed the interior designer will present a sample board of finishes, colors, and fabrics recommended for consideration. This insures color and texture coordination, so important to the total design concept.

If an interior design consultant is retained, he or she should be one approved by the architect. Normally, the architect will recommend several firms and selection will be made from these on the basis of interviews. The person selected should be fully qualified to meet the requirements of the American Institute of Interior Designers. Since it will be necessary for the interior designer to work closely with the Project Team and the architect, personality compatibility will be a big factor in eventual success.

Beginning with the schematic phase, the interior designer will usually handle the preparation of the layout drawings and specifications for all interior work and for the selection of furnishings. It is necessary to carefully define these responsibilities to avoid overlap and gaps. The fee charged by the interior designer will be repaid many times by a superior selection of furnishings and a more pleasing environment. In many instances, the savings in the purchase of furnishings achieved by the interior designer more than make up for the fee.

When the responsibility for furniture selection falls on the

library administrator, the same basic steps must be taken to (1) inventory existing furnishings, (2) determine the furnishings to be purchased, (3) select colors and textures, and (4) choose individual items. So far as possible, each item should be inspected under actual conditions of use. Accurate budgeting requires the library administrator to distinguish between list price and the price which will probably prevail when the item is purchased through bids.

In addition to the problem of determining quality, perhaps the most difficult decisions facing the novice in furniture selection is deciding upon style. For this reason, library administrators often prefer to select a particular line of furnishings available from one library furniture company. While this avoids the risk of mixing various furniture styles which may be less than compatible, it can produce a feeling of monotony, especially in larger installations. Some problems are also apt to arise because few library furniture suppliers can provide every item needed. Therefore, some pieces of furniture must be purchased from other vendors, introducing the probability that variations in style, color, and texture will occur. Sometimes it is easier to mix compatible pieces selected from various manufacturers rather than to try to adhere to one rigid style. Lounge furniture offers a special opportunity to introduce additional color and texture into the interior design. Representatives of the various furniture manufacturers can provide helpful advice, though their knowledge of construction and materials is apt to be limited to those items in the lines offered by their company. As indicated earlier, library administrators who must assume this responsibility should begin very early by visiting other libraries to inquire about actual experience with particular products. Visits to furniture showrooms - especially to the Merchandise Mart in Chicago - can be very stimulating and helpful.

In the final analysis, the library administrator who must choose the furnishings for the library must depend largely on his or her own judgment of what will look and work the best. Like the interior designer, the library administrator must be concerned with creating an interior environment consisting of furnishings, graphics, wall and floor coverings, colors and textures which will attract library users and wear well in the years ahead.

II. INVENTORY OF FURNITURE AND EQUIPMENT

One of the first tasks relating to the interior which must be performed is the careful inventorying and evaluation of library furniture and equipment presently in use. Each item of furniture and its condition should be separately noted, described, and its location in the library indicated on a form. If inventory numbers have been attached to the furniture previously, these can be used for reference. If not, considerable time will be saved and confusion avoided if each item is numbered and the number attached, using a plastic label maker such as a Dymo tapewriter. The labels should be attached underneath the item where they will not be accidently removed. The description of each item should include its condition and an evaluation as to whether or

not it should be considered for (1) moving as is, (2) refurbishing, or (3) replacement. Usually a scale of values is developed permitting the condition of the item to be rated from excellent through marginal to rejection. Such an inventory sheet might appear as shown on Table X-1.

The completed inventory will provide a basis for deciding which furnishings can be moved with little or no refurbishing, which must be repaired and/or refinished, and which must be replaced. This list will be used in conjunction with the furniture layout and each item to be moved into the new or remodeled facility can be properly allocated when checked against the list of furnishings required for the project. Items not on the inventory list or which must be replaced because of their condition become part of the buying list.

TABLE X-1

A SAMPLE FURNITURE AND EVALUATION SHEET

Item No.	Item	Location	Description	Evaluation Rating			
				Use in New Bldg.	Needs Repair Etc.	Reuse is Doubtful	Replace
124	Table	Children's Room	36" diam. Oak finish Top is badly cut. Sturdy		Refinish?		
125	Desk	Children's Room	42" x 24" single pedestal. Walnut. Legs splintered & drawer fronts split				Replace
126	Shelving	Children's Room	14 double faced sections; metal 42" high. Blue enamel	Reuse	Repaint to match color scheme		
127	Vertical File	Children's Room	Jumbo size, 3 drawer. Oak finish; hardware bad. Finish poor.			Doubtful	

Generally speaking, individual pieces and small quantities of older furnishings can best be used in office and workroom areas where they will not be next to new items. Where larger amounts must be reused, they can often be placed in a particular area there the difference in styling will not be too noticeable. Larger quantities of old but still serviceable shelving, for instance, may be used in storage areas and workrooms. Similarly, old but usable card catalog cabinets are frequently relocated in the cataloging workroom to serve as a shelflist, or in an area needing a separate catalog such as the local history and genealogy collection.

III. LAYOUT OF FURNITURE AND EQUIPMENT

Whether the responsibility of the architect, the interior designer, or the library administrator, the layout of furniture and equipment must provide the required quantities of furnishings in an arrangement which is both efficient and pleasing to the eye. The layout should be inviting and facilitate use of the library collections and services. The ability to supervise the building should be enhanced by the layout. Large masses of seating are less satisfactory than small groupings interspersed with the collections. To expedite layout planning, a simple model can be constructed with scale furniture available from the Bureau of Public and Cooperative Library Services. Such models provide a quick way to try various arrangements. They also give some idea of the three-dimensional affect furnishings add to the interior.

IV. PARTITIONING: FIXED VS. MOVABLE

Except in the smallest of library buildings, some areas such as offices and workrooms will need separation from other spaces. If possible, partitions used for this purpose should not support the weight of the building (i.e. should not be load bearing walls). Many partitions which are not required to carry structural loads are constructed of lath and plaster on a metal or wood stud frame. Others use dry wall in place of plaster. Some of these can be designed as "demountable" partitions meaning that they can be torn down and relocated, if need be, at a later date. The more chance you see for future changes in partitioning, the better such movable partitions will serve.

Within large workrooms it is possible to create a variety of work spaces through open-office planning which makes use of landscape or movable partitioning. Instead of going from floor to ceiling, as the more permanent partitions do, landscape partitioning usually extends only to eye level. Many companies now offer partitioning systems of this kind and each has its merits depending upon the use to be made of it. Most such systems are attractive in shape and design and offer a variety of textured surfaces, a wide range of colors, and many accessories. With a few exceptions, the individual pieces of landscape furnishings can be moved easily to adjust to new requirements. If the tasks assigned for each position are fully understood, work stations utilizing these systems can adapt to any given work flow and provide space for efficient operations. Because of its flexibility, open-

office planning has the potential for making more effieicnt use of space than traditional designs requiring other types of partitioning and furnishing.

With the onset of the energy crisis more firms are adding task lighting as a further inducement to use landscape partitioning. One of the few problems which sometimes occur in open-office planning is the lack of acoustical control. Although manufacturers claim significant improvements in the sound absorption qualities of their installations, the full partition continues to provide greater privacy for those needing it. Therefore, it is usually recommended that the library administrator's office, at least, have floor to ceiling partitions with appropriate acoustical treatment to avoid sound transmission through walls, windows, and doors as well as over the top of the walls to surrounding areas. Similarly, all rooms to be used as conference and meeting rooms should be carefully engineered for acoustical privacy, using floor to ceiling partitions.

Interior designers are well versed in the use of this concept and can be most helpful. Assistance migh also be sought from the architect and from representatives of firms offering such furnishings. To determine which method works best for your library, layouts using both traditional and open-office concepts can be drawn and compared.

V. COLOR COORDINATION AND SELECTION

The colors throughout the building should be carefully coordinated so that they combine into a pleasing environment complementing the surroundings. The setting of the library, the style of architecture, and the size of the interior spaces will all influence the choice of colors. While the use of a single color throughout the building may be monotonous, a rainbow effect in which many colors are used can be disquieting. Because people are very color conscious and may like or dislike a building because of its color scheme, it is important that this be given serious consideration. The phycholofical effects of color are a particular concern in staff offices and workrooms. Unless the library administrator is well versed in color selection, special help should be sought from a qualified person - preferably an interior designer.

VI. FURNITURE SELECTION

Furniture selection is a complex procedure and is best left to those who fully understand furniture manufacturing and know what is available on the market. The difference between a library in which furniture was chosen from a few catalogs and one furnished by an interior designer is likely to be remarkable. Each item should be selected with respect for its suitability, appearance, maintenance requirements, color, texture, and price. Particular care must be given the critical wear and breakage points. The goal is to select furniture which is suited to its needs, attractive, long-lasting, and easily maintained. In addition, the furnishings should complement the design of the building. This means going beyond the perusal of catalogs.

The library administrator will want to inspect each item under consideration and, if possible, see it in actual working conditions. Oftentimes, the vendor or manufacturer will loan an item to the library for a brief period of time where it can be observed in use. Attention should be given the durability of various furnishings, the compatibility of color and texture, and features such as mar-resistent table and desk tops. Highly reflective surfaces of desks and tables should be avoided because of the almost inevitable problem of glare.

Furniture selection is a time consuming job and is best done in large urban areas where wholesale dealers maintain showrooms. Wisconsin librarians are expecially fortunate to be relatively close to the Chicago Merchandise Mart, one of the world's largest displays of furniture. The architect should be able to arrange for access to the showrooms and provide some guidance, if an interior designer is not involved in the project. Because the selection of furniture and equipment is a complex task it must begin early in the project.

The publications listed below should be carefully read along with similar materials available in other texts and located through *Library Literature*, *Reader's Guide*, and the *Art Index*.[59]

VII. FLOOR AND WALL COVERINGS

The selection of floor and wall coverings is an integral part of the interior design work. This, too, is a fast changing area of furnishings and considerable expertise is required to select the coverings most suitable for each area of the library, including colors and textures. The ease of care and maintenance should be a major factor in selection, along with the general utility of the particular covering. For instance, the somewhat higher initial cost of vinyl wall coverings should be compared to the long term maintenance of painted walls, especially where areas are exposed to heavy traffic. Similarly, a good grade of commercial carpet may have a slightly higher cost originally than hard flooring materials such as vinyl or asbestos tile. However, its warmth, acoustical properties and ease of maintenance offer many advantages which must be considered. When carpet is selected, sufficient extra yardage should be purchased to permit replacement where the heaviest traffic occurs around the entrance, circulation desk and on the stairs. Soil

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[59] The publications referred to are: *Library Furniture and Equipment, Proceedings of a Three Day Institute*, Chicago, American Library Association, 1963; *The Library Environment: Aspects of Interior Planning*, edited by Frazer G. Poole, American Library Association, 1965; *Library Technology Reports*, (bi-monthly evaluation of furniture, equipment and supplies tested by independent laboratories), American Library Association. The columns, "Facilities and Design," in *American Libraries* and "Buyers' Guide" in *Library Journal* offer current information. Periodicals such as *Interiors* and *Interior Design* serve the trade carrying informative articles and product advertising.

and wear can be minimized if precautions are taken to provide ample matting at entrances, including a means for removing snow and mud from shoes. When extremely bad weather conditions persist, plastic runners can be used to protect the carpet where traffic is heaviest from out-of-doors. The choice of color and texture in both floor and wall coverings will be a factor in their maintenance and life.

VIII. PREPARATION OF SPECIFICATIONS AND BID DOCUMENTS

The writing of specifications for furniture and equipment is an involved process which, hopefully, will be done by the architect or interior designer. Several institutes held by the Buildings and Equipment Section of the American Library Association's Library Administration and Management Association have addressed this topic. To the librarian confronted by this responsibility, the Proceedings of the institute held in New York in 1966 will hold special interest.[60] You will also want to have input from the person in charge of purchasing in your jurisdiction regarding the regulations associated with the preparation of specifications and bid documents for furniture and equipment.

In regard to the purchase or bidding aspects, be sure that you know the probable delivery time for each type of furniture and equipment being ordered. Libraries which have tried to order everything at once have frequently found that opening day dawns and even some essential items have not yet arrived. Check with manufacturers to determine the amount of lead time to be allowed, plus delivery time. Add 15 to 20 percent, minimum, to this estimate to allow for slippage in schedules, material shortages, and/or strikes. Chances are still very good that a number of items will either be delivered at the very last minute or be late.

IX. INSTALLATION OF FURNISHINGS

Floor and wall coverings are usually considered to be a part of construction and will be installed under the direction of the general contractor. Sometimes carpeting is removed from the general contract and then installation will be supervised by the architect or interior designer.

Other items of furnishings, however, must be suitably installed. This is more than simply putting each item in place. First, when the shipments arrive, each carton must be carefully opened and the items examined for damage. Your usual procedures for following up damaged merchandise will be useful if damage has occurred.

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[60] *The Procurement of Library Furnishings, Specifications, Bid Documents and Evaluation*, edited by Fraser G. Poole and Alphonse F. Trezza, American Library Association, 1969.

A carefully drawn plan which provides a specific place for each item must be available when the time comes for installation. Book shelving is usually installed first. Some manufacturers have their own teams to set up the shelving; in other instances, local workmen must be brought in. The architect should establish the proper placement of the stacks and make certain that the rows are exactly parallel, follow the location on the master plan, and are leveled to compensate for any deflections in the floor.

Loose or movable furniture follows. Usually, desks are put in place, followed by tables and chairs, each located with precision according to the layout drawing. Once every item is in place, the layout should be carefully evaluated to determine whether conditions exist which dictate slight modifications. Sight lines from staff desks can now be tested, and seating adjusted as necessary to improve supervision.

X. SIGNING

The area of graphics and signing is a large one. The subject has seldom been treated in library literature on building, yet few things are more distracting than to enter a new library building and find hand-lettered signs plastered on columns and walls, with arrows pointing in all directions. By way of contrast, the signing for the Eau Claire Public Library is worthy of special mention. It is highly visible, legible, and instructive.

Planning for signs and graphics should begin when agreement has been reached as to the general layout of furniture and equipment. At this point, it will be very helpful for staff members to review the floor plans in terms of the directionsl questions most frequently asked such as, "Where are the novels?" "Where are the reference books? "Where is the children's room?" "Where do I find the magazines? "Where's the librarian's office?" "Where are the restrooms?" "Where is the drinking fountain?" "Where do I register for a card?" "Where do I pick up a book I reserved?" "Is there a public telephone anywhere?" "Where is the meeting room?" ad infinitum. Using such questions as guidelines, what areas, offices, functions, etc., should be provided with a sign? Where can signs best be located to make them obvious? What wording should be used to make each sign easily understood by the user? Once preliminary wording has been determined, ask staff and a group of users to interpret their meaning and to indicate the directions they would follow when seeing such a sign. Avoid library jargon; use the words which will have greatest meaning for the user.

When the content of the signs has been determined, review them with the architect or interior designer. Select a sign manufacturer who can provide you with attractive products. Be sure the style and size of lettering is highly legible from wherever the user is supposed to first see it. Signs can and should complement the interior design. They must offer a contrast so as to attract attention, but should not be disconcerting. (Certain signs now fall under the *Wisconsin Administrative Code* and you can refer to Section 52.04.3 for details.) Once

construction on the new library building has proceeded to the point where finish work is begun you can test the proposed location of various signs by using hand lettered mock-ups of similar size and shape. The eventual locations can then be determined in relationship to their actual environment.

The installation of signs can be a real problem unless this has been considered in their design. Arms jutting out from walls, wires hanging from the ceiling, or standards supported on floor stands usually look like last minute improvisations - which they often are. When designing the signs, determine also how they will be illuminated and whether or not special lighting will be required. This is still another reason why signing must be made a part of the planning and considered with the layout of the furnishings.

Another useful exercise which will involve both signs and graphics is to ask staff to consider what verbal instructions they would use in response to questions such as those posed above. Are there elements in the building which may serve as guideposts? Can graphics be employed to simplify directions? One library successfully solved the problem of identifying different areas of the building by using a distinctive color on the wall in the different areas. Thus, reference services could be identified by the blue wall, fiction by a yellow wall, etc. Great care must be taken in the use of such devices since incorrect overuse may result in an ugly jumble of color that repels people. Again, the professional advice of a graphics specialist is well worth the small additional cost.

XI. LIGHTING

Interior design must include lighting as an essential and integral part of the building environment. Lighting engineers can be helpful in determining requirements and in describing the pros and cons of various kinds of fixtures. However, concern must be focused on the affect of lighting on the user. An increasing array of artificial lighting sources are now available running the gamut from task lighting to continuous luminous ceilings. To this variety must be added daylight which can enter the building in a number of ways such as clerestories, skylights and windows with either clear or opaque glazing. Color and quality of lights add further nuances to interior design and must be considered along with the desired levels of light to be maintained. The special lighting needs of each library area must be separately studied. Fixtures must not be selected which produce objectionable heat or glare; sharp contrasts between light and shadow should be avoided except where a theatrical effect is appropriate. Add to this the urgency of energy conservation and the importance of lighting as an interior design element becomes most apparent.

One of the reasons that lighting should be considered as a part of total design is to provide proper outlets, fixtures, etc., in the right places. For instance, a wall graphic planned as an integral part of the building might be illuminated during the day by light re-

flected from a clerestory, while concealed lighting fixtures supply light at night. However, unless planned for, only the wall for the graphic might exist when the building is completed; the opportunity for natural daylight illumination and concealed artificial lighting would have been precluded if the concept of the graphic wall had not occurred as part of the total design. Similarly, furnishing should be selected and/or designed with this provision, with electrical outlets properly located in floor and walls.

The incorporation of skylights and clerestory as well as windows can provide an effective source of natural light to reduce energy consumption. High Intensity Discharge lights (HID) can provide efficient light from high ceiling areas if planned for in advance. Lighting, then, must be an integral part of interior planning and design.

XII. SUMMARY

Interior design and furnishings cover a great deal of important territory. It is usually best left in the hands of an expert - the architect, a qualified interior designer, or a sign and graphics specialist. Layout of furniture and equipment, color selection and coordination, floor and wall covering selection, furniture selection, the preparation of specifications and bid documents, all require expertise. Installation of furnishings should be in accordance with a carefully prepared plan. Signing is a very important element in the interior design and should be considered from the outset of interior work. Because the interior design will do much to determine the reception the library receives in the community, it is vital that it receives high priority.

CHAPTER XI

THE CONSTRUCTION PHASE

While the library administrator is not directly involved in the construction process, it is nevertheless useful to have some understanding of what can be expected during this period. The purpose of this chapter is to briefly describe the course of events from bidding through completion of the structure, with some notes on the library administrator's special concerns.

I. THE BIDDING PROCESS

The actual bidding procedures will be determined by the appropriate regulations of the library's jurisdiction. In most public work jobs the process is fairly well standardized and consists of a few basic steps. The state's legal requirements are set forth in the *Wisconsin Statutes* as follows: Cities and towns; *Section 62.15*; counties and villages, *Section 66.28*, and for library systems, *Section 43.17*. In general, the procedure will follow the outline below. Usually, the library Board or jurisdiction is referred to as the owner.

A. INVITATION TO BID

Once the working drawings and plans have been approved by the building department and proper jurisdictional authorities, the library board or other officials of the jurisdiction will authorize a call or invitation for bidding. This is a legal announcement stating the nature of the project to be built, and the regulations which will govern bidding procedures. In addition to appearing as a legal notice in newspapers, such an announcement is carried in the various trade papers circulated among building contractors. Sometimes the architect will also contact contractors with particular experience with the type of construction represented by the building.

B. ASSEMBLING THE BID

Each contractor obtains a set of drawings and specifications from the library Board or building department and proceeds to prepare a bid which requires careful analysis of all building materials and work that will be required to complete the project. The contractor will seek bids from the various specialists such as electrical, mechanical, and other trades, usually referred to as subcontractors or subs. All of this information is analyzed, the best bids from the subcontractors incorporated, and a final total bid price determined.

Usually, the bids must be presented on a form provided by the owner as a part of the specifications. This, along with whatever

bonds may be required to guarantee performance, must be presented to the owner at a specified time and place for opening.

C. THE ARCHITECT AND THE BIDDING PROCESS

The role played by the architect during the bidding process will depend upon the policies and customs prevalent in the jurisdiction. The architect will be expected to help answer questions posed by contractors during the bid period and to assist in analyzing the bids as submitted. If several contractors raise similar questions, or if, by some chance, an important detail has been inadvertently omitted from the plans or specifications, the architect may prepare an addendum to be sent to all contractors who are bidding the job. Such addendum must, of course, be kept to the minimum.

D. THE BID OPENING

About four to six weeks after the invitation has been issued, the bid opening will take place at the time and place designated. Legally, bids submitted after the stated hour are automatically disqualified and are returned to the bidder unopened. At the designated time and place, a library Board member or other official of the jurisdiction announces that the hour has arrived for the opening of bids, whereupon each bid is opened and read aloud. A tabulation is prepared listing the bids made by each contractor. Action is seldom taken at this time other than a declaration that "all bids will be taken under advisement." The library Board and the architect then study each of the bids and determine which contractor is to be recommended for the job. During this process, bids that fail to comply with all requirements are declared invalid. The recommendation - usually for the lowest responsible bidder - is then referred to the governing body of the jurisdiction for action. While the range of bids will strongly suggest the probable construction cost, not until a particular bid has been accepted will the exact cost be known.

E. THE AWARD OF THE BID

Immediately following the acceptance of a bid for construction the decision is announced to the press. Then the necessary contracts between the owner and the contractor are drawn and executed by representatives of each. The form of agreement is usually a part of the specifications, though some additional legal language may be required. Once the agreement has been signed, the process of bidding and award of bid is declared completed.

F. ALTERNATES

When there is some doubt as to whether the building will be bid within the budget, the architect may suggest, or be asked to propose, one or more alternates. These alternates may vary from the

use of different materials or mechanical systems to adding or leaving out space. Alternates are called either "deductive" or "additive" depending upon whether the intent is to reduce or supplement the basic bid. The library administrator must take a long, hard look at any proposed alternates, for once an item is on this list, officials may feel that it is not essential - perhaps even a frill. As a result, library buildings may be reduced to bare minimums and forced into higher maintenance and replacement costs. First costs, rather than long range values, often influence the choice of alternates. Future expansion may be jeopardized, if not precluded when, for instance, space is curtailed by this process. Therefore, alternates should be approached with extreme caution with full consideration given their possible affect on the building - present and future. Warning should be given if proposed alternates pose a hazard and other means sought for reducing building costs to bring the project in line with the budget.

II. THE ARCHITECT'S ROLE IN CONSTRUCTION SUPERVISION

Once the contractor has been chosen, the architect assumes a new role. It now becomes his or her responsibility to interpret the drawings and specifications to the contractor, determine which of various materials or products will be used where alternates are available, inspect construction during all of its phases, and prepare change orders when a major deviation from the original plans and specifications is required. He or she will also approve progress payments to the contractor based on an evaluation of work done, prepare punch lists of things that need to be corrected, keep the owner apprised of progress, and finally, when all required work is completed, certify to the owner that the construction is finished and the building ready for occupancy.

To discharge these responsibilities, the architect must make frequent visits to the site and confer with the contractor and building officials. The authority of the architect is established in the contract between the owner, the library Board, and the building contractor. Acting as the owner's official representative, the architect has the authority, for instance, to stop work on the project if this action seems warranted for any reason. (See Article 2 of AIA Document A201, "General Conditions of the Contract for Construction," for further information on the architect's responsibilities and authority during the construction period.) The architect's authority and reputation as a supervisor during construction is extremely important and often weighs heavily in the criteria for selection.

III. THE CONSTRUCTION PROCESS

Depending upon the size of the project and local conditions, the contractor is usually allowed a specified number of days between the signing of the agreement and beginning work on the site. From that point on, construction is a more or less continuous operation. During this initial period, the contractor will develop a schedule and form the staff which will direct and carry through the project. Arrange-

ments will also be made with the various subcontractors for their services. Materials and equipment will be ordered.

A. THE SCHEDULE

Construction of a building is an intricate interweaving of skilled workmen, special equipment, and quantities of all kinds of materials. To avoid costly delays and overlapping, the contractor must prepare a detailed schedule which forecasts each step in the building process, determines when each of the various trades and subcontractors must be on the job, and establishes when they must have their work completed. This schedule is usually reviewed with the owner's representative and the architect. A copy of the schedule should also be in the library administrator's files to provide you with information on the expected progress of the construction. As a part of these preliminaries, the contractor will also be reviewing the schedule with various subcontractors and making whatever adjustments may be necessary.

Although most contractors attempt to allow some extra time in their schedule for delays, it is seldom possible to foresee all the problems which may arise, and especially those created by adverse weather. For instance, an early freezing of the ground when construction is just beginning - or a long period of rain or heavy snow during excavation and other site work can result in the loss of days and even weeks of construction time. Similarly, if temperatures remain too low over an extended period of time while foundations and slabs are being poured, or other concrete work is underway, construction will necessarily be delayed. While some work can proceed during the winter months, a sudden thaw can turn the construction site into an almost impassable quagmire, resulting in understandable but sometimes costly delays.

Weather also plays a part when it comes time to apply roofing materials. Failure to wait for dry and reasonably warm weather can result in an unsatisfactory roof which persists in leaking for the rest of its days. Wherever possible construction should begin so that the building can be erected and enclosed before winter sets in. On most projects this means getting underway as early as spring weather will permit and taking full advantage of late spring for site work, foundations and slabs. Obviously, it is important to take the affect of weather conditions on construction into consideration when preparing the original schedule for the project, and when working with the contractor's schedule.

B. GROUND BREAKING

The first visible work may include the fencing of the site and the setting of survey stakes. About this time a ground breaking ceremony should be held as a public event signifying the actual beginning of construction. This is an excellent opportunity for the library to gain extra visibility in the community. People not ordin-

arily concerned with the library are usually interested in something as important as a new building project, whether an expansion of an existing structure or an entirely different building. Weather permitting, a program should be held on the site with brief introductions of the major participants in the project. The ceremony is highlighted by the turning of the first shovelful of earth marking the breaking of the ground. This can be as simple an act as the officials actually placing a spade in the earth, or as dramatic as the imagination allows. Buildozers or other mechanical equipment such as a backhoe or power shovel may substitute for a spade with a local official and contractor at the controls. Where demolition is involved, a sledge hammer stroke or similar gesture may be used. The important thing is to dramatize the symbolic nature of this new beginning for the library.

In many instances, the ceremony is concluded with a meal to which community leaders and the general public is invited. Here, additional time will be available to recognize those who have contributed to the success of the library building project as well as those responsible for the design of the building and its construction. There may be a special display of the building plans to highlight significant features. The groundbreaking ceremonies should provide rather unusual publicity coverage for the library.

C. SITE WORK

The setting of the survey stakes delineating the project usually occurs as soon as demolition of any existing surface or subsurface objects has been completed. This will be followed by excavations for basements and foundations. Soil will be leveled and compacted where slabs are to be placed on grade. Trenches will be dug for plumbing which must go under the slab.

D. FOUNDATIONS AND SLABS

Once the site work is completed, forms will be placed for foundations of walls and the basement slab. Considerable work may be required to build the forms, place reinforcing steel, stub in electrical conduit and plumbing, and pour the concrete. This part of the work sometimes seems to move very slowly. Weather will play an important part in this schedule since concrete is affected by temperature and humidity.[61] Frost and freezing weather are special hazards which can delay construction.

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[61] Regulations concerning the mixing and placing of concrete are covered in *Wisconsin Administrative Code Section 50.40-53.42* which indicates adoption by reference of the provisions of the *American Concrete Institute Report 318* and the *American National Standards Institute, Inc., Specifications A 59.1-1968* and *A 122.1-1965*.

E. GENERAL CONSTRUCTION

After the foundations and ground floor slab have been completed work begins in earnest as walls materialize. The load bearing walls begin to assume their shape and the building takes on a third dimension. If more than one floor is included in the plans, extensive forming will be necessary. Finally, the roof trusses, often prefabricated, will be lifted into place and steps taken to enclose the building on all sides. When this has been finished, the initial interior work moves forward rather rapidly. Plumbing and electrical work previously stubbed into floors and load bearing walls will be extended through partitions. Sheet metal duct work snakes through walls and above ceilings in a special maze all its own. Interior partitions rise where chalk lines have been traced on the floor.

When actual construction is completed, finish materials are installed, including wall and floor coverings, light fixtures, ceiling tile, door frames, plumbing fixtures, and cabinetry. Floor coverings should be protected by plastic runners during this process. As everything goes into place, there is a last minute round of cleaning, minor repairs, touch-up painting, and adjustments made to equipment. The mechanical equipment is tested and preliminary balance of air flow to all parts of the system achieved. Book shelving and library furniture installation should be the final step in completing the building.

IV. CHANGE ORDERS DURING CONSTRUCTION

During the course of construction, certain modifications in the original plans may be required by various circumstances. The architect will draw plans for such changes and these should be carefully reviewed by the library administrator to be certain that the change does not affect the ability of the building to function as a library. For instance, moving a door a few inches or a foot or so may seem to be of little consequence to the contractor or the architect, but may have great affect on the use of the room if a certain sized piece of equipment must be installed and operated there. Whenever possible, the contractor will be urged to accept a change order without requesting additional compensation. Sometimes several changes must be made which offset one another in cost. If additional money is needed to effect the change, paper work is usually required to submit the change order and its anticipated cost to the jurisdiction's authority. This expense would be charged to the contingency fund. Because an excess of unexpected change orders can seriously damage a project, the architect's record on this score is a vital criteria in his or her selection.

V. THE ARCHITECT'S ROLE DURING CONSTRUCTION

During construction, the architect has several basic responsibilities to the project: (1) preparation of drawings and specifications

where change orders are required; (2) architectural supervision of the construction; (3) preparation of punch lists consisting of items which need correction; (3) finding solutions to problems which occur during construction that were not foreseen during the design of the structure; (4) approval of work done and authorization of payments to the contractor; (5) continued representation of the owner when necessary.

As noted previously, problems will usually occur during construction which were not foreseen during the design process. These must be resolved and the architect has an obligation to find the solution or approve one suggested by the contractor. This may require redrawing of structural details, approval of alternate materials, methods or equipment and presentation of changes to the local building officials. When such changes are substantial and/or involve sums of money not in the original contract, formal change orders must be prepared and approved by all concerned - owner, contractor, building officials, and architect. The preparation of such change orders is the responsibility of the architect.

Architectural supervision during construction has been mentioned in Chapter VII, Section VI. D. and is covered by *Wisconsin Administration Code Section Ind. 50.10*. Perhaps it is worth re-emphasizing that the objective of architectural supervision is to determine whether or not construction is in compliance with the approved plans and specifications. The enforcement of codes and other regulations is normally the responsibility of the local building official. If tighter supervision of construction is desired - as is often the case - a construction supervisor, often referred to as the Clerk of the Works, should be employed by the owner. This is discussed in the following section of this chapter.

Throughout construction the architect will, as a matter of course, prepare lists of problems which must be resolved. When construction nears completion a special review of the building by the architect is required to prepare a final punch list. At this point the architect makes a detailed tour of the building, clipboard or tape recorder in hand, noting every flaw or oversight. These may include nicks in woodwork, voids in paint, scratched or broken glass, faulty installation of hardware, inoperative lights and electrical outlets, chipped or broken porcelain on plumbing fixtures, etc. All of these items will be compiled on a long punch list and given to the contractor for remedial action. At the same time, the architect may request proof that all tests of equipment required by the specifications have been made satisfactorily, including pressure tests on water and gas pipe lines and balancing of the air conditioning system. When the contractor has completed all remedial work to the architect's satisfaction and has supplied him with all other information required, the architect is in a position to recommend acceptance of the building to the owner.

In addition, as a part of his or her periodic inspections of the project, the architect will review the construction to determine

whether or not a progress payment to the contractor should be authorized. The schedule for such progress payments is established, of course, in the construction contract. If, in the judgment of the architect, a progress payment is in order, he or she will give formal notice to the owner - such notice should always be in writing with adequate notation as to work completed and in progress. The authority to authorize progress payments is one of the controls the owner and architect can employ to require the contractor's compliance with project requirements.

During the construction phase, the architect continues as a member of the Project Team and often represents the owner in a variety of situations. If the architect is responsible for the interior design phase, he or she will be actively involved in selecting furniture, wall and floor coverings, etc. In any case, the architect will probably be concerned with the coordination of construction schedules with those of installation of casework, furnishings, etc. Of course, the architect's involvement continues beyond the construction stage. (See Chapter XII, Section IV.)

VI. SUPERVISING CONSTRUCTION: THE CLERK OF THE WORKS

On other than small projects, the owner may wish to have a representative on the job at all times. This person, known as the Construction Supervisor or Clerk of the Works, is knowledgeable in all phases of construction and sees to it that the owner's interests are kept uppermost. Given the power to halt work if a serious problem arises, the Clerk of the Works helps to coordinate the solution of problems with the architect and the contractor. He or she makes certain that the materials and workmanship meet the standards set by the specifications and that all conditions are met. Unless a person of this caliber is on the site during the whole construction process, substandard materials and craftsmanship may occur - especially in that portion of the work which is covered up between the periodic visits of the architect and building inspectors. Once the concrete is poured, for instance, it is difficult to tell whether the dirt beneath was compacted fully and whether or not the proper depth of base materials was used throughout the structure. A good Clerk of the Works can often call attention to potential problems before they actually occur, warding off trouble and expensive change orders. Paid a monthly salary by the owner, the Clerk of the Works will be worth many times this stipend by the time the job is completed.

VII. THE LIBRARY ADMINISTRATOR'S ROLE DURING CONSTRUCTION

The role of the library administrator during construction includes, but may not be limited to, review of any change orders which may be authorized and a check on all shop drawings which pertain to casework. Shop drawings for casework consist of detailed drawings produced by the company furnishing cabinetry and built-ins. Such drawings require careful study to determine whether or not they fulfill all requirements. Be sure to check all dimensions, including those of drawers, shelving, and other components. Review the shop drawings with the

staff members who will be using the fixtures once they are installed. If a 3" x 5" card, for instance, refuses to go into the slot made for it because of failure to accurately measure the dimensions of the cut-out on the shop drawing, this will result in an embarrassing problem. Where necessary, build mock-ups to test new designs or concepts.

VIII. THE LIBRARY CONSULTANT'S ROLE DURING CONSTRUCTION

The role of the library consultant during construction will vary with the project. It is normal for the consultant to be involved with any change orders which might affect the manner in which the library functions as a library. The consultant should certainly be concerned with the interior design and selection of furniture and equipment. In projects concerned with remodeling and additions where unexpected conditions may arise which preclude earlier plans or offer opportunities not originally available, the library consultant can be particularly valuable. It is often helpful for the library consultant to accompany the library administrator on several site visits. Because of previous experience, he or she is likely to observe a variety of things which should be called to the attention of the contractor. The ability of the experienced library building consultant to understand and interpret the languages of architecture, construction, and library science, plus at least a limited knowledge of building codes and practices, can prove most useful in crucial meetings between the contractor, owner, and architect. As a person with the benefit of considerable experience, the library consultant is in a position to bring additional insight to problem solving and add weight to the owner's position throughout the construction phase.

IX. VISITATION DURING CONSTRUCTION

The building contractor can restrict access to the building site. Even though you, as the eventual occupant, have the greatest stake of all in the outcome of the building project, you have no inalienable right to inspect the building at will. For this reason, it is essential that you maintain a good working relationship with the architect, the building contractor's representative, and the Clerk of the Works if one is hired. Gaining their respect and cooperation will sometimes require patience and proof of something more than idle curiosity. They are very busy people who must supervise a variety of workers plying many trades simultaneously. Their adeptness and coordination of all this may make the job look deceptively easy. When you visit the project try to let them know you are coming; check with them on arrival and determine whether or not there are special hazards or obstacles to avoid on the site. Take as little of their time as you can; keep your questions to important matters. Safety is more important than ever since the advent of special regulations on construction set by the Federal Occupation, Safety and Health Administration (OSHA); you will have to abide by these and any other applicable regulations. Be prepared to wear a hard hat at all times when on the site.

X. INTERIOR DESIGN WORK

As the building nears completion, the moment will arrive for the interior designer to arrive on the scene - if one has been used. This person will have worked with the Project Team on the selection of furniture, design of casework, choice of wall and floor coverings, and color schemes. He or she will have inspected the building as the wall and floor coverings go into place. Under his or her supervision, the various items of casework will be installed, furniture and bookstack uncrated, checked off purchase lists and examined for possible defects or damage while in transit. When all is ready, each item will be placed in position in accordance with the approved layout of furniture and equipment.

XI. "AS BUILT" DRAWINGS

One of the provisions of the agreement with the contractor should require that one or more sets of working drawings be carefully marked and returned to the owner as "As Built" drawings. During the process of construction, details are apt to change due to unforeseen conditions. For instance, an error of an inch or two in the placement of electrical conduit or plumbing in a floor slab may necessitate a slight change in the location of a partition, or a ventilating duct may be shifted to provide greater clearance for other equipment, conduit, or whatever. Here and there, last minute changes required to fit the actual layout of furniture and equipment may call for moving some electrical outlets or light fixtures. While such changes may seem insignificant at the time, there is always the chance that accurate information will be required later on - as, for instance, in remodeling. The corrected set of plans, faithfully noting every change, no matter how minor, provides the owner with just such reliable information. The architect usually checks the "as builts" before they are given to the owner to make certain that the corrections are complete, legible, and accurately drawn.

XII. ACCEPTANCE OF THE BUILDING

The acceptance of the building transfers legal responsibilities from the contractor to the owner. Prior to acceptance the owner's representatives, accompanied by the architect, should make a final, detailed examination of the project to determine whether all work has been accomplished. The punch list compiled by the architect should be checked for completion but should not preclude review of all facets of work. For instance, in performing remedial work, other problems may have occurred - ceiling tiles may be broken, windows and/or mirrors scratched or cracked, paint marked, wall and floor coverings soiled or damaged, porcelain fixtures chipped, etc. All light fixtures and outlets should again be tested and plumbing fixtures tried for proper flow or leakage. Unless otherwise provided, all graphics, signing and art work should now be in place.

The contractor will also provide the owner with a full set of

warranties, guaranties, and instructional literature covering the equipment used in the project. For protection of the owner and contractor, these items should be submitted with an index so that both have a record of the exact items included. The contractor usually reviews operating and maintenance instructions with the appropriate representatives of the owner. Literature will also provide instructions for cleaning and maintaining the surfaces of furnishings. The contractor should also supply the owner with a complete list of manufacturers' representatives and/or subcontractors to be called upon whenever problems arise, both during and after the warranty periods.

The turning over of the keys also occurs at this point (this is not to be confused with the symbolic transfer of the key which may occur as part of the dedication ceremoney). Except for the smallest library building, the contractor should install a key box in a secure location, containing a carefully labeled hook for every key used in the building. It is often good practice for the owner to have all locks changed at this point so that any keys which may have strayed during construction are no longer operative. This simple act will decrease the building's vulnerability. The number of master keys should be limited and a careful record kept of the allocation of keys to staff members and any others who may require them.

As one of the final steps, the architect will file a Notice of Completion in accordance with the *Wisconsin Administrative Code, Section Ind. 50.10 (3)*. This notice certifies that "to the best of his or her knowledge and belief, construction has been performed in substantial compliance with approved plans and specifications." When the Notice of Completion has been filed and the owner has accepted the building, the contractor normally receives the final payment due. This is usually about 10% of the total fee and frequently constitutes the contractor's profit on the job.

The question of whether or not the library should attempt to move before the building is officially accepted is a complex one. In the case of remodeling and expansion, most, if not all, of the moving may have already occurred as a matter of logistics. If an entirely new building is involved, the contrator's written permission must be gained. The owner must understand that by occupying the building before completion is official, it may be difficult to place responsibility for any damage occurring thereafter. For instance, damage to walls, broken glass, etc., may be attributed to moving library furnishings and materials rather than to the final work being carried on by the contractor. The subject of moving is more fully covered in following chapter.

XIII. SUMMARY

Beginning with the selection of the contractor, the construction process gets underway. The contractor must have time to organize the construction team, hire crews, prepare an exact schedule of construction and sign contracts. At this time, the owner may employ a Clerk

of the works for day-by-day supervision, although the architect has the final authority for project supervision. Once the site had been surveyed and excavation completed, the first structural work begins. Soon, the building begins to take shape as teams of workers representing the various trades complete their work.

When the work is finished the architect prepares a definitive punch list calling attention to various matters needing attention by the contractor before turning the building over to the owner. During the process of construction, change orders may have to be issued to account for unexpected work; these require careful planning by the architect and may add to the expense of the building and/or delay its completion. The library administrator will need to check change orders and shop drawings. If an interior designer has been employed, he or she will supervise the installation of furniture and equipment, having assisted in the selection of wall and floor coverings, colors, and items of furniture. The construction process is a complicated one and it is to the library administrator's advantage to fully understand the role of every person involved from start to finish.

CHAPTER XII

OCCUPYING THE NEW BUILDING

Preparations for moving into the new library building must begin long before moving day. Initial research and preparations may begin as soon as a library building project gets underway. The purpose of this chapter is to present some of the more salient matters which deserve consideration.

I. THE MOVE-IN

Moving a library would probably be no more complicated than moving an office operation if it were not for the collections. Because of collections, numerous articles have been written about the experiences of one library or another. In 1966, William H. Kurth and Ray W. Grim wrote a fairly definitive book[62] on this subject which should be read by anyone contemplating a move. While more concerned with the problems confronting the large library, nonetheless, many of the principles are applicable to a library regardless of size. Because this text is available, only a few highlights of the moving process will be indicated here.

A. WHAT IS TO BE MOVED?

The first obvious question is to determine exactly what is to be moved. This includes everything - furniture, equipment, materials, what have you. Seldom is the answer as obvious as it may first appear to be. Some items are almost certainly going to appear marginal in terms of moving costs and future use. This step relates to the inventory of furniture and equipment previously discussed. Items which need cleaning and/or repair should be placed on a special list and scheduled for appropriate attention. So far as the collections are concerned, a good premove weeding will be helpful.

B. REORGANIZATION OF COLLECTIONS

Occupying a new building provides an opportunity to reorganize the collections. Such projected adjustment will have been described in the building program. During the preparation for moving, classification numbers or location symbols must be changed, added, or deleted from book spines, labels, shelflist, and catalog cards. The quantity of material affected will determine the amount of staff time required. Few things are more

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[62] Kurth, William H., and Grim, Ray W. *Moving a Library*. New York, The Scarecrow Press, 1966.

confusing to both the public and staff than a library collection which does not follow a logical sequence or arrangement, or one in which call numbers found in the card catalog to not match the intended book on the shelf. This is doubly true when a new building is occupied. If the collection is to be divided into special arrangements in the new building, or if two or more formerly separated groupings are to be brought together, work should begin immediately. Kurth and Grim have good advice on this subject.[63]

C. WHO WILL DO THE MOVING?

Whether the move should be made by library staff, community groups, or by a commercial mover will depend upon several factors, including the amount of materials, furniture and equipment which is to be moved and the distance between the new and old facilities. Various articles which can be traced through *Library Literature* tell of numerous experiences in which staff and volunteers do the packing-unpacking operations, while a commercial moving van is responsible for the transportation between the two locations. Because of the limited number of people who can be used simultaneously in the reshelving of collections, a relatively small, but well trained, task force is usually groomed for the job. In any move, the library staff must also devote time and energy to other activities, including the final shelf reading before the library is opened for use.

D. HOW SHOULD THE MOVE-IN BE SCHEDULED?

The answer to this question depends upon such factors as the quantity of materials to be moved, the complexity of removing materials from one building and placing them in another, and who will do the moving. If staff or volunteers are used, a longer period of time may be required than if a commercial moving firm is employed. Planning for the move should get underway as far in advance as possible to allow for adequate preparation and consideration of the several alternatives. A year of planning time is not too much for most libraries, though the actual move may be done in a matter of a few days.

E. HOW LONG WILL THE MOVE TAKE?

The response to this question is conditioned by the same variables stated above. While many libraries attempt to remain open and provide partial to full service during the move, usually the time is shortened and the total effort eased by closing the library for whatever period may be necessary, often a matter of several weeks. If a temporary outlet can be established, or a branch library used to give interim reference service and provide some popular reading material, public inconvenience can be

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[63] *Loc. cit.*, p. 71.

minimized. If the collections are to be completely reorganized and the staff fully oriented to its new surroundings during the period of closure, the public will be quick to forget the temporary inconvenience.

F. THE ADMINISTRATOR'S RESPONSIBILITIES

The library administrator must be responsible for planning the move, acquiring whatever staff may be required to prepare for the event and, in many instances, negotiating for the services of a community group or commercial firm to transport library materials and furnishings. Detailed advance planning is absolutely necessary. Schedules must be devised and plans made for supplying temporary service to the public during the period of closure. If qualified staff are available, the library administrator may delegate to one person, or to a staff team, the responsibility of devising a plan for the actual move. During the move itself, the library administrator will assume full command to see that all items are properly boxed, labeled, transported, and placed in the correct location in the new building.

II. STAFF ORIENTATION

It is embarrassing to visit a new library on opening day - or soon thereafter - and hear staff members apologize for not being familiar with their surroundings. In most cases, this is because of insufficient orientation. During the period of construction, the library administrator has an obligation to see that all members of the staff gain a familiarity with the new building. This can begin with a study of plans, especially those drawings which show the layout of furniture. A model will be a big help in interpreting the building; many people have difficulty in imagining a new setting, and especially the size of spaces. Of course, it will not be until the furniture is in place that staff can begin to get a true picture of its new home.

Once the building is ready for occupation, the staff should be given an opportunity to examine every nook and cranny, including mechanical equipment rooms, storage areas, and closets. Complete familiarity with the building is essential. During the time the library is closed for moving, brief daily staff meetings can be helpful in resolving minor problems which are bound to occur and to answer questions while they are still fresh. The custodian(s) also needs time to become familiar with the building and acquire the supplies which must be used for cleaning and maintenance.

Before the building is opened to the public, the staff should have one or more dress rehearsals with members taking turns representing the public and library personnel. These rehearsals should explore the questions a curious public is certain to ask, including all the "Where is. . ." queries. By practicing and working together staff can soon devise responses which are most apt to give users whatever information they need in the shortest and most direct manner

possible. This should extend to giving directions to virtually anything and any place in the building that a user might have cause to look for, including restrooms, drinking fountains, public telephones, offices, individual staff members, materials on a particular subject, etc. Following the directions exactly as given, staff members can check on the accuracy of the instructions and determine whether the landmarks used can be improved upon and whether special visual aids, graphics, and signing are needed. Having had time to become thoroughly acquainted with the new building, and confident in their ability to find things and give directions, the members of the staff will be prepared to open the doors to the public

III. DEDICATION

Dedications of library buildings assume various forms, depending in part upon the policies of local government and traditions within the community. This should be a gala affair since it is an opportunity to give recognition to everyone who has assisted in the project. The season of the year and the size of the building will determine whether the dedication can be held out of doors or within the building. In either case, the formalities should include the introduction of the entire Project Team, with an opportunity for the architect and contractor, perhaps, to speak for five minutes or so. If a local dignitary or guest speaker is invited to make a longer address, other presentations will have to be kept very brief.

Several months before the building is ready for occupancy, the library administrator should see that a Dedication Day Committee is formed, including representation from the library Board, community, governmental jurisdiction, and staff. Through the Bureau of Public and Cooperative Library Services and the Library Administration and Management Association of the American Library Association, copies of dedication programs can be borrowed for background information. Some of the decisions to be made include: (1) When will the ceremony be held? (2) Exactly where will the ceremony be held? (Inside or outside, for instance.) (3) Who will preside? (4) Who will be introduced and how much time, if any, will be given for responses? (5) Should a local dignitary, or someone from the outside, be invited to make a brief address? (6) Will there be a formal ceremony for turning over the key or cutting a ribbon? If so, who will participate? (7) How many can be expected to attend? (8) How will the open house and library tour be handled? (9) Is there a group willing to furnish refreshments or should funds be raised to provide them? (10) Who will serve the refreshments? (11) Who will handle publicity, including the designing of the program? (12) Should the architect or someone else be asked to prepare a fact sheet covering the building's most salient features? (13) How will invitations be handled and by whom? Response to these and many other questions will determine the success of the dedication.

One question which is frequently raised asks whether or not the dedication should occur at the time the building is open to the public, or should it be a formality sometime later? The answer depends upon

various circumstances. One important factor to keep in mind is that there is apt to be far greater public interest in the ceremony if it occurs before the building is open to public use. At this point, public curiosity reaches its peak and interest in the new building will have been spurred by a series of publicity items fed through the media about the completion of the project and, if a new structure is involved, stories about closing the old building and moving operations. The ability to capitalize on this rising tide of interest seems, under normal circumstances, to outweigh other factors such as delay in receiving some items of furnishings or graphics, or the inability of a particular notable to participate.

The dedication celebration offers a special opportunity to both recognize gifts made to the library building and to encourage others. If possible, significant gifts should be listed in the program, and attention drawn to a suitable plaque in the building on which the names of such donors are noted.

The week following the formal dedication can often be used as a special time for continuing the celebration and concentrating attention each day on a particular service area or function of the library. Throughout the week, the public can be encouraged to take tours of the building under the guidance of volunteers, members of the Friends, or some other organization, who have been trained for this activity. All in all, so many benefits can accrue from a carefully planned and conducted dedication that it is worth many times the work and energy that it requires. Above all, it is one more opportunity for wide-spread community involvement which is a rich reward in itself.

IV. THE ADJUSTMENT PERIOD

For a new library building, the first year or so might well be considered an adjustment period. A building must go through at least one entire year before its reaction to the climatic conditions of each season is known. As the outside temperatures and weather conditions change, the response of the air conditioning system must be monitored and adjustments made by the contractor. Achieving a balance in the system is a slow and intricate job affected by all sorts of unpredictable things.

The library administrator will also need to be ready to handle a variety of minor crises as the year goes on. The file of warranties and equipment instruction pamphlets provided by the contractor will prove particularly valuable during this period. In addition to things which may malfunction in one way or another, a year's occupancy will reveal flaws in materials and workmanship for which the contractor can be called upon to remedy within the terms of the warranty on construction. Occasionally, a problem will arise that will require the services of the architect as well. In fact, architects usually keep fairly close tabs on the new buildings they have designed to provide assistance as well as to learn what mistakes may

have been made. Sometimes entirely unpredictable problems occur, as in the case when a new structure was erected adjacent to the library and the sunlight reflected from its windows proved to be a constant source of irritation until the architect designed a system of drapes and louvers to control the glare. At other times there will be a question of liability - whether a particular problem was caused by poor design on the part of the architect or is the result of faulty construction. These matters must be arbitrated, and more importantly, the trouble remedied - whatever it may be.

V. SUMMARY

Long before the building is ready for occupancy, the library administrator must formulate plans for (1) the move-in, (2) staff orientation, and (3) dedication. Community participation in the dedication ceremonies should be especially welcome. Staff planning will have much to do with the success of the move-in and the orientation program. Once the building has been occupied, the first year should be considered as a period of adjustment for the structure. The library administrator will have to become a trouble-shooter, working with the architect and the contractor to find solutions to whatever problems may occur.

CHAPTER XIII

EVALUATION: THE BEGINNING AND THE END

The completion of the library building project does not bring an end to the process for the library administrator - it merely marks the conclusion of a major phase. While the building is still in the planning stages - hopefully while changes can still be made - the library administrator should reflect on every facet of the plan in terms of the present and future public. Have you really provided for the collections, services, and special facilities your community needs most? Does the allocation of space to various areas of service reflect community need and interest? Or do they represent the desires of the architect, or some other influential person or group? Will there be room for expansion and is the building flexible enough to react fully to changing community need as your studies predict?

If, after careful study, you feel that the library building is an accurate reflection of community requirements, you have done well. On the other hand, if the building is little more than a combination of more space for the same old services and features which have satisfied only a fraction of the community before - go back to the drawing board. Unless the public finds true personal satisfaction, the new building will hold only temporary interest for them and business will lapse into the same old patterns.

I. POST CONSTRUCTION EVALUATION

When the initial excitement of opening the new building has passed, it is time to objectively study the library building project. This evaluation should include an accumulation of evidence on a variety of topics geared to answer such questions as: In what ways are the library's services and collections being used more or less? Which services and parts of the collections seem to have experienced the greatest change in use, and why? If more people are using the library, who are they and where do they live - what are their demographic characteristics? Has the new building continued to draw the "old crowd"? If not, why not? Has the geographic pattern of usage changed in any way? If so, how and why? Has the demographic profile of library users changed for various age groups? In what ways? What complaints are most frequently registered by the public? What do they seem to like the most?

What specific features of the building seem to cause the most problems and/or complaints from the staff? Can any of these be remedied? Did the arrangement of collections work as expected? Has supervision proven as good as expected? Has the design of the circulation counter and other staff desks added to or detracted from staff efficiency? Does the staff appear able to meet the demands of the public without unnecessary steps? Have workroom layouts proven efficient under operating conditions?

Have there been problems relating directly to the construction of the building such as annoying drafts or wide variations in heating and cooling capacities? Is there objectionable glare from windows? Has acoustical insulation proven adequate in walls between staff workrooms and public areas? Are floor and wall coverings proving serviceable and requiring minimal maintenance? Are the furnishings standing up to public use? Have costs of maintenance and operation proven higher or lower than projected? Have there been any problems with the electrical, mechanical, or plumbing installations? Have any items such as automatic doors, elevators, dumb waiters, or air conditioning equipment required service beyond normal maintenance?

II. ENCOURAGING OTHER VIEWPOINTS

This review and evaluation should be shared by staff so that they, too, understand that the building is not a static thing just because it is new - things can be changed when there is reason to believe that change will result in marked improvement. One word of caution - since staff sometimes resist a new way of doing things, be sure innovative methods, processes, and equipment have had a fair chance to prove their advantages before permitting modifications, let alone reversions to former practices. On the other hand, do not cling to anything which has proven wrong simply because you or other staff were once sold on it.

Frank discussions with the architect, interior designer, consultant, and others involved in the planning will provide further input into your assessment and the solution of problems which may have arisen. Architects and interior designers are extremely interested in the building and environments they have created, and anxious to know how things perform under day-to-day conditions. Further insight can be gained by asking for help from a group of community representatives pledged to honest criticism. Sometimes their viewpoints will reveal ignorance of features you thought were well known; at other times they will call attention to irksome obstacles which would have gone unseen otherwise. They may also be counted on to help suggest solutions and can do much to increase public acceptance of the new library when they know you are sincerely interested in their particular reactions.

There is no such thing as a perfect building, for all must be a series of compromises. Therefore, an honest evaluation will give you answers to those who ask: What would you do differently if you had it all to do over again? Such questions are usually posed to gain insight and understanding - not to criticize your building. Thoughtful, documented answers which point out what is good and right, as well as what might have been done better, will do much to help other librarians from other communities, as well as complement the image of the library in your own community.

III. RESOLVING IMMEDIATE PROBLEMS

Once the long list of questions has been prepared and answered it is time to evaluate them. Has the design, in all of its ramifications,

been reasonably successful? Which public and staff complaints seem most justified? What can be done now at minimum expense to remedy the problems which have emerged in your study? Can you make simple adjustments in collection arrangements, placement of furniture, or additional signing, to alleviate any of the problems? Should a service counter be modified slightly, or a new electrical receptacle added, or an existing one moved for greater convenience? Simple solutions often solve what appear to staff and public as insurmountable problems. If your building is capable of reacting to changing requirements of your community - then adjustments can and should be made, whether in a few weeks, months, or perhaps several years after the building is first opened. Sometimes it is necessary to call upon the architect and/or consultant to ask for suggestions when a particularly difficult problem exists. Uninhibited by the constrictions of day-to-day familiarity with the building, the architect, interior designer, or consultant can often arrive at solutions which would otherwise be overlooked.

IV. INDICATORS FOR FUTURE NEEDS

A final use of the evaluation is to search for indicators pointing to pressure points that sooner or later must receive attention. Sometimes it is a matter of reassessing the schedule for adding more bookstack, or filling another staff position. Perhaps you will want to reconsider the type of readers' accommodations you planned to add later - adding more carrels, for instance, and fewer tables and chairs. It is surprising how soon you will develop a sensitivity to pressures of all kinds and, before long, you will know whether growth is going to be at the predicted rate. Based on this conclusion, you can begin sensing how far your community may be from adding a future wing or making some other major adjustment in the unending process of furnishing adequate library facilities for all of the people.

Evaluation studies of this kind should continue at two or three year intervals. The results should be accumulated and utilized to make such modifications as may be indicated, and to prepare for larger changes in the future. Those who fear such evaluation as a possible channel for criticism should remember that the defects cannot be hidden and it is best to discover them, then work out solutions beneficial to all. More often, you will look at each evaluation report with satisfaction, knowing that you have played an important role in providing a library building which continues to prove its ability to satisfy the increasingly sophisticated information needs of the entire community.

APPENDIX A

SAMPLE PAGES FROM A LIBRARY BUILDING PROGRAM

The following pages have been taken from an actual building program as an example of how a number of the items discussed in Chapter IV may appear. This particular program was prepared for a new library building to serve a community of about 30,000 people in a semi-rural area of another state. In addition, the building is the County Library headquarters supplying branch and bookmobile service to an additional 25,000 people. Although a program written for any other library building would involve different quantitative data and relationships, the topics covered would probably be very similar.

This chapter falls early in the building program and because it concerns the entrance to the library, must involve many of the major areas of the library. Each of these is then developed more fully in subsequent chapters. While this may require some slight repetition, it seems to be the most practical method.

In this particular program, prior chapters have dealt with (1) Concepts and Rationale, (2) Planning Criteria, and (3) An Overview of Major Divisions of Library Operations. Together, these chapters contain considerable information which is applicable to the entire program and therefore not repeated thereafter, except to draw attention to specific requirements or exceptions.

APPENDIX A

THE ENTRANCE AND CIRCULATION AREA

The library's entrance, and the area immediately surrounding it, is one of primary importance involving a number of special considerations. To be effective, the entrance must bear a proper relationship to both the exterior and interior of the building. It should be inviting and easily reached. Once inside the door, it should be easy for the visitor to orient himself to the major areas of the library and to feel a positive invitation to explore the library's collections and services.

I. TYPES OF LIBRARY VISITORS.

Those who come to the library for other than casual reasons usually fall into one of three groups. By describing each of these some insight can be gained.

A. THE SHORT-TERM USER.

While varying from day to day and hour to hour, a substantial proportion of the library's daily patronage enter the library with the intention of making only a brief trip, often to return previously borrowed materials. Some wish to pick up reserve books or locate a fact or simple piece of information. Perhaps as many as 1/3 to 1/2 of the library's users fall into this category and stay thirty minutes or less.

B. THE LONG-TERM USER.

Comprising the second group, the long-term user comes to the library for extended periods of time to browse through the collections, read, or use other materials in the library building, or to do extended research. The number who fall into this category will increase in the new building because of the improved surroundings, the enlarged collections, and greater range of services. For the most part, these people seem to be more casual in their approach to the library since they are less concerned with making the most of a brief stay. Senior citizens, particularly, find the library environment attractive and may spend much of the day or evening in the building.

C. GROUP PARTICIPANTS.

The third group consists of those who come to the library as a part of a formal or informal group to participate in a particular activity or program. When group meeting space becomes available, this portion of the library's public will increase many-fold. Among the many types of learning experiences which will attract

groups will be film showings, book reviews, Great Books discussions, Contemporary Affairs and Problems series, etc. Some programs will be aimed at particular age groups such as children, young people or senior citizens. Others will be more appealing to family groups.

Because groups such as these can cause traffic problems within the library and thereby create congestion, noise, and confusion, access to meeting areas should be carefully planned to avoid routing everyone through reading or stack areas. (See also Chapter IX, "Group Meeting Facilities.")

D. STAFF AND OTHERS.

The fourth group consists of staff members who may elect to use the main entrance unless the delivery entrance and/or a special staff entrance provides equal or superior convenience. Also included in this group are those who come to the library on business, such as salesmen, publishers' representatives, truck drivers making deliveries, etc. For those whose visit entails the delivery of parcels, the delivery entrance should be so convenient that there is no temptation to use the public entrance.

II. THE PUBLIC ENTRANCE.

The public entrance should present a positive relationship between the exterior and interior of the building. Without becoming an overpowering element, it should have strong architectural appeal, establishing in the mind of the visitor that, without doubt, here is where one enters this building! It is surprising how often this simple matter is overlooked; locating the public entrance, then, requires the public to analyze the building's exterior and to guess the probable terminus of walkways.

A. LOCATION.

The actual location of the public entrance is a matter which must be decided by the architects in terms of the new structure's total design, interior spaces, and general orientation on the site. There should be a strong relationship to parking and to easy access from the street. In terms of the site, this would probably mean that the public entrance will be located somewhere north of the present structure [illegible] might face east. However, this should not rule out the possibility of studies which would place the public entrance elsewhere - perhaps on the north side of the building. Walking distance from parked car to library entrance should be kept minimal since many people carry comparatively heavy and awkward loads of books and other library materials. Here, the library faces a problem typical to shopping centers wherein public resistance to use grows as the distance between parked car and entrance increases. At least a limited amount of adjacent parking will be required for physically handicapped people.

Traffic on Locust Street must also be reckoned with. At least two conditions exist which pose special problems: (1) the parking lot at the corner of Court and School Streets, which the City has indicated may be expanded and used for library parking, and (2) the Senior Citizens Building which is located opposite the library on Locust. With a growing number of people using the library, pedestrian traffic crossing Locust to the library is bound to increase. Some kind of control in the form, perhaps, of a fully signalized pedestrian crosswalk at School and Locust appears a necessity for human safety. This signalization must occur before work on the new library building is completed to avoid undue risk. If this intersection cannot be signalized for whatever reason, then further consideration should be given to providing an increased amount of off-street parking near the library which would not require library visitors to cross streets.

B. STREET LEVEL ENTRANCE.

The public entrance must be at grade with no obstructions intervening to hamper access to the physically handicapped. Gently sloped walks can be used to bridge whatever incline may be necessary to bring the library floor to its proper height in relation to the existing building and/or grade. Such walks should be of ample width to permit easy pedestrian passage, including wheel chairs.

C. LIGHTING AND SIGNING.

The entrance should be fully lighted both as a sign of welcome and as a safety precaution. An illuminated sign should be readily visible to passing motorists. This may have to be located on the ground near the street rather than attached to the library building if the structure is very far from the street. Such lighting and signing should be inherent parts of the structure - not tacked on as an afterthought.

D. THE ENTRANCE DOORS.

The public entrance doors should be recessed to whatever extent may be necessary by design considerations to provide adequate overhang protection. However, they should not be so deeply recessed as to be lost in the facade of the structure. The doors should be automatic *sliding* glass doors. This is essential since so many patrons come to or leave the library with arms loaded. If local code requires, additional doors may be incorporated into the entrance and armed with panic hardware for emergency use only. All automatic door closure hardware should be located for quiet operation and easy access for maintenance. All doors require proper and substantial locking mechanisms.

III. RELATIONSHIP OF THE ENTRANCE TO THE INTERIOR.

The public entrance should bear a natural and positive relationship

to the interior of the building. From his vantage point at the entrance, the visitor should be able to quickly orient himself so far as the location of major elements of library collections and services are concerned. A bubble diagram, Figure IV-1, shows those elements which are involved. Essentially, these include the location of the children's room, the adult services area, the circulation and registration desk, the card catalog, and a point of access to any other floors on which public services may be located.

A. THE ENTRANCE LOBBY.

The entrance lobby should be compact. Traffic flow here must be smooth since those entering and leaving the library, and others moving from one section of the library to another, pose potential conflict in traffic patterns. The decor of the lobby should establish the library as a friendly but business-like place; further, the lobby serves as a transition to the guieter areas deeper within the library.

B. OUTSIDE BOOK RETURNS.

No outside book return is shown in Figure IV-1, though libraries in the past have customarily placed one in the entrance to facilitate after-hours return of books. However, such devices jeopardize the internal security of the entire building, opening it to vandalism. Therefore, it is proposed that a sufficient number of free-standing book returns be placed curbside to make an internal after-hours book return unnecessary.

C. CIRCULATION SERVICES, OFFICE AND WORKROOM.

Upon entering the building, the visitor should be immediately aware of the circulation services area where library materials can be returned, borrowers' cards issued, etc. However, this desk must not be overpowering since many people have no immediate need for the services offered here and wish to move further into the library without feeling they are going to have to pass some sort of sentry position. The office of the Chief Circulation Clerk and the workroom for circulation staff should be adjacent too, but not necessarily physically connected to the Circulation Services Desk.

D. YOUTH AND ADULT SERVICES.

As previously stated, the visitor should be able to visually orient himself to the library's major areas while passing through the entrance area. Both the Children's and Adult Service areas should be visible. It is important that this visual introduction be an inviting one featuring views of library materials and reader accommodations.

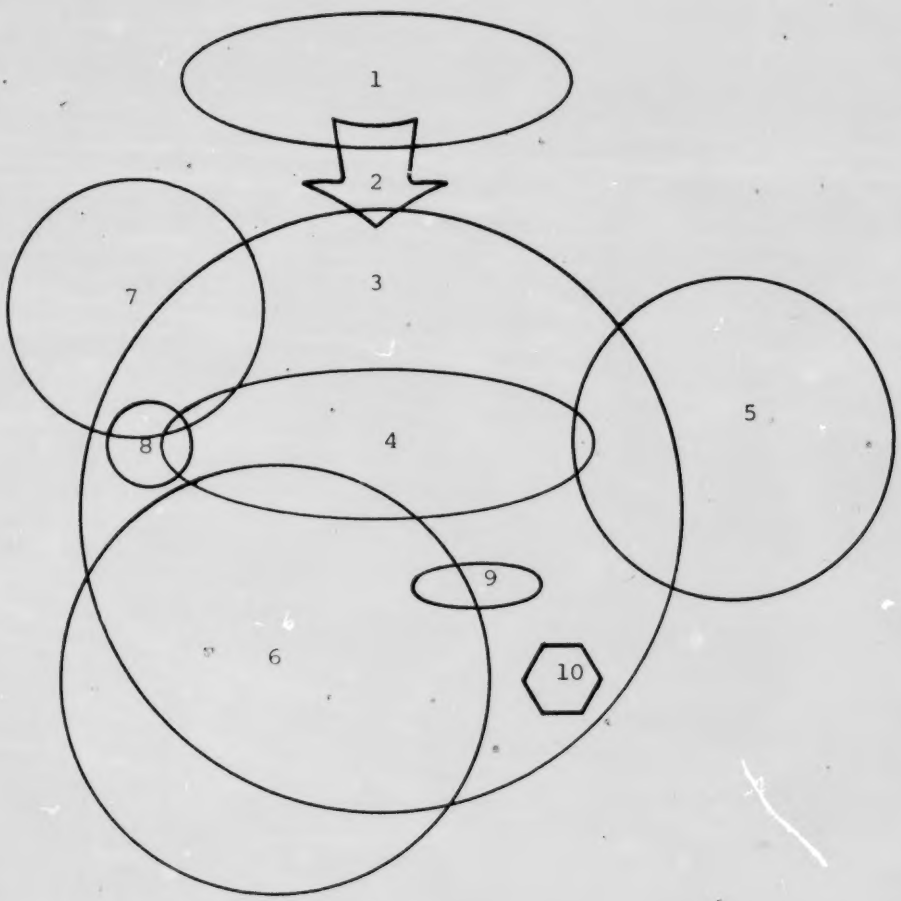
E. CARD CATALOG AND BIBLIOGRAPHIC CENTER.

The card catalog and its attendant bibliographic sources

FIGURE IV-i

SCHEMATIC RELATIONSHIPS OF THE ENTRANCE TO

THE MAJOR ELEMENTS OF LIBRARY SERVICE



1. Pedestrian Access from Parking
2. Entrance
3. Entrance Lobby
4. Circulation Services
5. Children's Services
6. Adult Services
7. Circulation Staff Workwoom
8. Chief Circulation Clerk
9. Card Catalog and Bibliographic Center
10. Vertical Access to other Levels (if any)

should be immediately available to the person entering the library. This is a place of "beginning" for many who are educated to use a library effectively. However, it is also true that the adult Reader Assistants and/or Reference Librarians must also consult these sources frequently in the course of their daily duties. Therefore, the card catalog's location must be given careful thought in the layout. In the final analysis, convenience to all concerned is the key word.

F. VERTICAL ACCESS.

If the design of the library results in a building of more than one level, and public services occur on more than the main level, it is important that control over vertical access occur at the entrance. If an elevator is used, and one must be if public services are split between levels, it should be clearly visible from one of the stations manned at all times.

IV. THE CENTRAL CIRCULATION DESK.

The various circulation functions are shown in Figure IV-2. The purpose of this area is to provide proper space for staff, equipment, and users involved in those record-keeping operations which enable the library to record and keep track of library users and the materials they borrow. Both adult and juvenile users will be served at this central desk. Since staff, public, and materials tend to converge at this key point, traffic analysis and control are very important to avoid congestion.

A. ENTRANCE AND EXIT.

Traffic control suggests that the public should enter by one door and exit through a separate but reasonably adjacent door. These should be automatic glass sliding doors. If necessary to meet building regulations, additional doors can be installed next to these provided they are armed with panic hardware and alarm mechanisms.

B. THE CIRCULATION DESK.

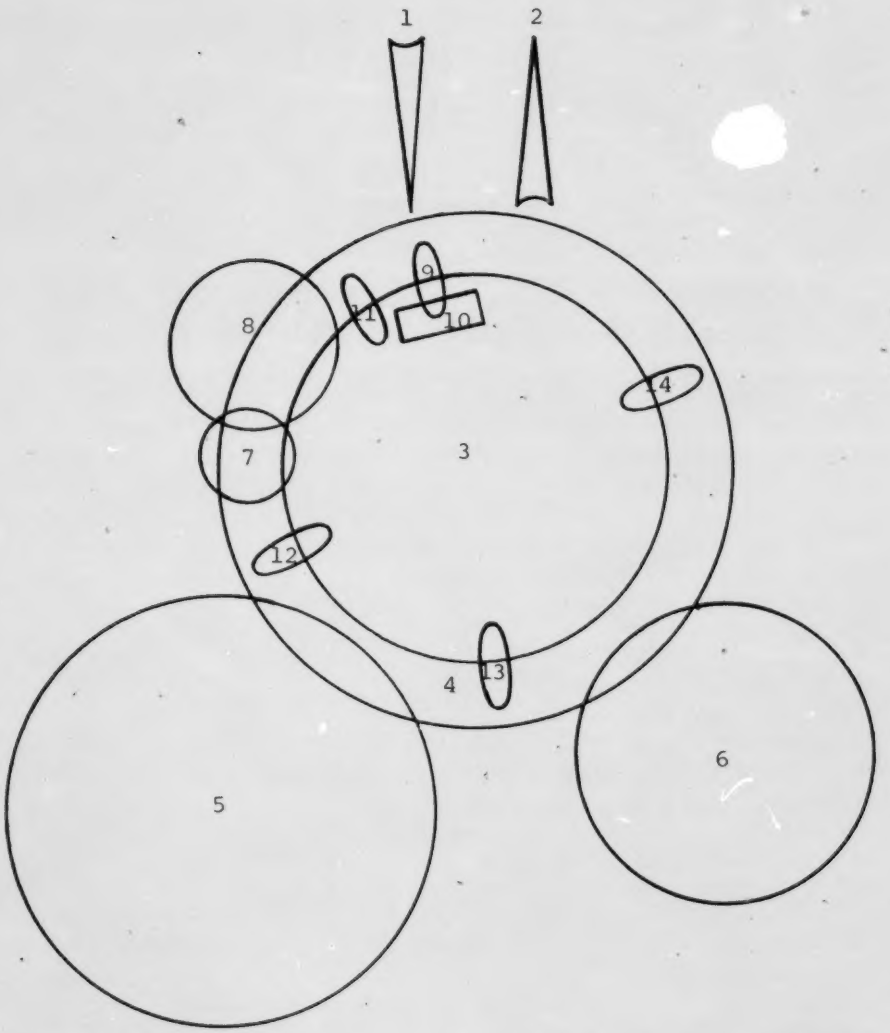
If possible, the Circulation Desk should be considered as a single island unit which provides space for the various functions which must occur here. Under some conditions, the desk may be split into two pieces with book return and sorting occurring at one and the remaining functions arranged in the other, allowing the public to flow between the two desks. However, this requires additional staff except in moderately large libraries where it is never possible for one person to handle all the traffic entering and leaving the building.

C. THE CIRCULATION LOBBY.

The Circulation Desk should be surrounded by a circulation

FIGURE IV-2

SCHEMATIC RELATIONSHIPS WITHIN THE CIRCULATION AREA



1. Public Entrance
2. Public Exit
3. Circulation Desk Area
4. Circulation Lobby
5. Adult Services
6. Children's Services
7. Chief Circulation Clerk's Office
8. Circulation Staff Workwoom
9. Book Return
10. Returned Materials Sorting
11. Payment of Fines
12. Borrower Registration
13. Reserve Book Pick-up
14. Charging Stations

lobby to act as a buffer. At the busiest times the lobby will have to handle queues of persons lined up to check out materials. This should be possible without interference to other traffic or operations. The lobby acts also as an acoustical buffer and as a transition space leading into the public areas.

D. ADULT AND YOUTH SERVICES.

Library users, whether coming from the adult or children's departments will use the same circulation desk. This flow of traffic can be hectic when school classes pay visits to the library and line up to check out their books simultaneously. Fortunately, this usually occurs when the adult patronage is limited. Lines of 12 to 15 persons waiting to check out materials at closing time or at peak use periods may not be regarded as unusual, though the library makes every effort to facilitate this operation.

E. OFFICE OF CHIEF CIRCULATION CLERK AND CIRCULATION STAFF WORKROOM.

Staffing of the Circulation Desk can be made more efficient by locating the circulation work areas and the office of the Chief Circulation Clerk adjacent, but not necessarily connected, to the Circulation Desk. Since the Chief Circulation Clerk is engaged both in supervising the circulation clerks and in assisting public who may have some particular problem with circulation or registration controls, the office for this person should be immediately accessible to public and staff alike. This office should contain about 100-125 square feet with a desk, credenza, and a four-drawer legal file. The detailed requirements for this office and workroom are provided in Chapter VIII on Staff Workrooms and Offices.

F. BOOK RETURN.

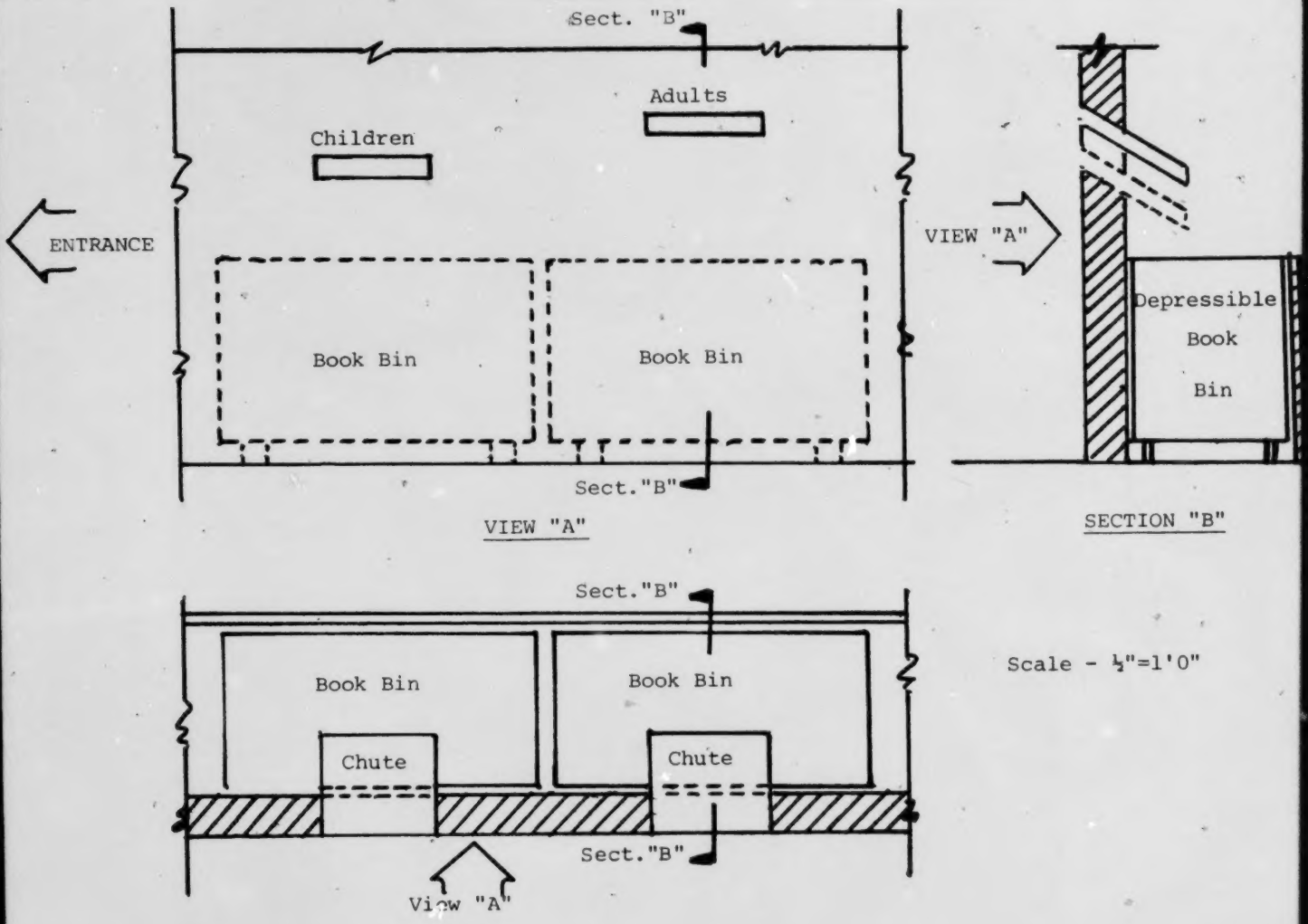
It is expected that borrowers returning books and other materials to the library will do so by placing such items in slots provided in the Circulation Counter. Materials thus received will slide into depressible book bins inside the Circulation Counter area as shown in Figure IV-3. Since a large portion of those entering the library do so for the purpose of returning books, it is important that this group be handled quickly to avoid unnecessary congestion. Immediately adjacent to the book return units library pages will sort the books for return to the shelves. This activity requires the use of book trucks which, in turn, must be moved from this area to the bookstack area in the adult and youth service areas. The combined capacity of the two book bins should approach 600 volumes.

G. PAYMENT OF FINES.

Unless the payment of fines is abolished in this library before the new building is constructed, it will be necessary to

FIGURE IV-3

POSSIBLE CONFIGURATION FOR BOOK RETURN AT CIRCULATION DESK



supply an area along the Circulation Counter near the book return area for those who must pay fines for overdue materials. A recess will be needed in the desk for a cash register. About 6 lineal feet of desk will be required for this operation which involves a circulation clerk examining overdue materials to determine the amount of money due, the conveying of this information to the borrower, and the actual payment and deposit of the money in the cash register. The clerk must frequently check certain files kept at the Circulation Desk, particularly those concerned with borrower registration and overdue records.

H. BORROWER REGISTRATION AREA.

Many who enter the library wish to "get a library card" before doing anything else. Therefore, it is important that the portion of the Circulation Desk at which this function occurs is as obvious and convenient as possible. Registration procedures vary, depending upon the system in use. However, most require the applicant to fill out an application form which is checked against a master registration file kept at the desk in 3" x 5" drawers. A library card is usually typed on the spot by the circulation clerk and given to the new user, assuming that all the records are clear. The operation should appear to the patron as a very simple one since the library is trying to attract an increasing number of people who have been alienated from agencies which require filling out long forms, disclosure of what many consider private and personal information, etc. The registration transaction is a simple one and the environment in which it is done should reflect this.

I. RESERVE BOOK PICK-UP.

Materials which people reserve in advance will be picked up at one point at the Circulation Counter. This may include material other than books, such as film and recordings. Space will be needed for shelving about 100 items. This may be incorporated into the counter or adjacent thereto. Items coming through interlibrary loan will also be placed here for customer pick-up.

J. CHECK-OUT

In terms of volume, the number one activity at the Circulation Counter consists of checking materials to people who wish to borrow books and other items. In most instances, this is the final stop for the borrower before leaving the library; therefore, the check-out function should appear near the exit door.

At present, the Visalia City Library is using the Gaylord Charging System which employs a small machine (about 12" wide, 16" deep, and 12" high). It is possible that the charging system will be changed between now and the time the new building is opened. Whether the new system will involve microfilm or some

other device is not known now. However, during the course of designing the fixture work, this will have to be finalized since the circulation control system will have some effect on the amount and kind of space required.

In any case, provision should be made for future computer terminals, both at the charging and book return areas. Whether the circulation system "of the future" will involve "on line" operations or will be "batch processed" is moot.

Although a single check-out point can handle a considerable volume of business, the fact that there are several peak periods of activity each day may point to the need for at least one additional check-out point. Depending upon the configuration of the Circulation Counter and the surrounding space, this may be a second part of the counter or a separate "island" type similar to that found in supermarkets.

V. CONCLUSION AND SPACE REQUIREMENT SUMMARY.

The entrance and circulation lobby with the circulation counter is one of the most important elements in the library building. However, the circulation control counter must not be allowed to become monumental in size and appearance. It is a business function and should convey this impression to the library users.

The ultimate number of square feet required for this area will be determined largely by factors not governed by this program. However, the following figure is given as an estimate, subject to modification, which may be useful to preliminary space design.

TABLE IV-1

SUMMARY OF SPACE REQUIREMENTS
FOR ENTRANCE AND CIRCULATION AREAS

	Approximate No. of Sq. Ft.
Entrance, Lobby and Circulation Counter	1,200

APPENDIX B

SUGGESTED LIST OF TOPICS FOR A BUILDING PROGRAM

The following topics are generally covered in a building program. Obviously, individual items must be adapted to the local situation. Suggestions which are not applicable should be disregarded and others added as needed.

I. THE ENTRANCE

A. DESCRIPTION OF THE QUALITIES NECESSARY IN THE ENTRANCE.

1. High visibility.
2. Easy identification as a library.
3. Street level - no steps.
4. Inviting.
5. Appropriate signing.
6. Security provisions.
7. Safety provisions - ice-free, non-slip surfaces.

B. BASIC RELATIONSHIPS (Exterior).

1. To parking and passenger drop-off.
2. To pedestrian access.
3. Other.

C. BASIC RELATIONSHIPS (Interior).

1. Entrance lobby.
2. Circulation desk area.
3. Other.

D. REQUIREMENT FOR AUTOMATIC DOORS - sliding preferred to swinging doors, and avoidance of draft for staff at desk(s).

E. DISPLAY CASES AND BULLETIN BOARDS (if any) at Entrance.

F. ORIENTATION TO AVOID GLARE OR EXCESSIVE TRANSMISSION OF HEAT AND COLD THROUGH GLASS.

II. INTERIOR AREAS FOR THE PUBLIC

A. CIRCULATION DESK AREA.

1. Brief description of the circulation control system and its requirements in terms of equipment, space for files, and supplies, which must be located at the circulation desk.

2. Brief description of charging (if not covered in Para. 1 above) and discharging processes, including space required and number of book trucks used.

3. Brief description of registration system and its requirements for files and supplies.

4. Number of staff at circulation desk at any one time.

5. Peak number of people served at circulation desk per hour at present and in the future - the problem of queue control at busy times.

6. Description of such routines as those involving reserve books, return of overdue materials, etc., in terms of space required for work, shelving, book trucks, and files; indicate maximum number of volumes on reserve at any one time.

7. Description of all other activities carried on at the circulation desk, including personnel, equipment, and supplies involved.

8. Collection Security System description.

B. ADULT SERVICES AREA

1. Describe primary factors to be considered in locating the adult services area in terms of its relationships to other areas within the library.

   a. To entrance.

   b. Circulation desk.

   c. Children's area

   d. Staff workroom.

   e. Other.

2. Brief descriptive statement of the purpose of this area and the services given.

3. Describe the relationships of elements within the adult services area, such as:

   a. Collections.

   b. Staff service (reference) desk.

   c. Adult seating.

   d. Card catalogs, periodical indexes, etc.

   e. Displays.

   f. Other.

4. Description of any special considerations or requirements which should be observed in planning the adult services area.

5. Space must be provided to accommodate the following:

   a. ____ No. of public service desks for adult services (Reference, etc.).

   b. ____ Total no. of volumes in circulation collection (follow with a breakdown of collection into categories which should be considered separately in space allocation and organization).

      Fiction _____Volumes.

      Non-fiction _____Volumes.

      Other (specify and list) _____Volumes.

   c. ____ Reference books (no. volumes).

   d. Microform materials:

      ____ No. reels of microfilm.

      ____ No. fiche.

      ____ No. readers and reader/printers.

   e. Periodicals:

      ____ Current periodicals (No. of titles)

      ____ No. bound periodicals in backfiles.

      ____ Linear ft. of unbound periodicals in backfiles.

   f. Audio visual materials (dentify here unless a separate chapter is used for AV services; see item II.c. of outline).

      ____ No. disc recordings.

      ____ No. tape cassettes.

      ____ No. 16mm films.

      ____ No. 8mm films.

      ____ No. video tapes.

      ____ No. framed pictures.

      ____ No. jumbo file drawers of mounted pictures.

      ____ No. posters.

      ____ (Specify and quantify any other AV materials.

   g. Describe and enumerate any other special collections to be housed.

6. User Accommodations for Adults.

   a. ____ No. adults to be seated at tables.

   b. ____ No. adults to be seated at study carrels.

   c. ____ No. adults to be seated at audio visual (wet carrels).

   d. ____ No. adults to be seated in lounge chairs.

   e. ____ Other space requirements for users (specify, describe, and quantify).

7. Space to be Supplied for Special Items of Furniture and Equipment, including:

   a. ____ No. filing cabinets for vertical files (4 drawer/cabinet).

   b. ____ No. jumbo filing cabinets for mounted pictures (3 drawer/cabinet).

   c. ____ No. card catalog drawers.

   d. ____ No. of periodical index tables (give approximate dimensions or no. of people to be seated at each).

   e. ____ No. of atlas cases.

   f. ____ No. of dictionary stands.

   g. ____ Other items (list and describe).

8. Description of Adult Collection arrangement, including any special categories or divisions to be used and any special types of shelving requirements.

   a. ____ No. volumes to be shelved in each of the described categories such as fiction, non-fiction, reference, rental, mysteries, westerns, local history, art books, etc.

   b. Special signing, shelving, or other requirements not covered above.

9. Describe location and use of the following in terms of relationships to other elements within the adult services area:

   a. Card catalogs and consulting tables.

   b. Vertical pamphlet and/or picture files.

   c. Atlas stand(s) and dictionary stand(s).

   d. Microform files and readers.

   e. Other (as listed under 7 e and f.

C. AUDIO VISUAL SERVICES

Note: if audio visual services are to occupy a separate area, rather than be integrated into the adult services area, then

a section of the program should deal with the requirements. Space for non-print materials would then be deleted from the general accounting in item II. B. 5. above and grouped in the chapter on Audio Visual Services along with other information. If a production facility for video and/or other purposes is to be included, it may be a part of Audio Visual Services or fall under the topic E. "Special Purpose Areas." This chapter would include itemization of the quantities of the various non-print materials to be housed, a discussion of how the area relates to other parts of the library, the number and nature of accommodations, including audio visual "wet carrels," group viewing rooms, preview rooms, etc. Requirements for an AV workroom could then follow in a later chapter as part of staff offices and work areas (see III. F. of this outline).

D. CHILDREN'S SERVICES AREA

1. Purpose of the area and services given.
2. Relationship of the children's area.
   a. External relationships.
      (1) To entrance.
      (2) Circulation desk.
      (3) Adult area.
      (4) Staff workroom.
      (5) other.
   b. Internal relationships.
      (1) Collections.
      (2) Staff accommodations.
      (3) Children's seating.
      (4) Displays.
      (5) Story hour area.
      (6) Other.
   c. Space to accommodate:
      1. ____ Books (No. vols.).
      2. ____ Other collections or materials, including audio visual (itemize and quantify).
      3. ____ Children seated at audio visual carrels.
      4. ____ Children seated at tables.
      5. ____ Children seated at study carrels.
      6. ____ Children seated in lounge chairs.
      7. ____ Staff at children's desk.

d. Display cases, atlas and dictionary stands and other specialized furniture and equipment (number and dimensions as well as brief description).

e. Provisions needed for audio visual materials and equipment.

f. Other special items.

g. How will story hours and similar programs be handled and how many children normally attend? _____ Maximum and minimum number who attended a single story hour last year, if known.

h. Will an office be necessary for the Children's Librarian?

i. Special space for bulletin boards or other display.

j. Special divisions of the children's collections to be observed (if any); describe relative location of each and estimate number of volumes to be included in the grouping.

(1) ____ No. Reference Books.

(2) ____ No. Fiction Books.

(3) ____ No. Non-fiction Books.

(4) ____ No. Picture Books.

(5) ____ No. Easy Books (primers or first readers).

(6) ____ Other Books separated by grade (if any).

(7) ____ Non-book Materials.

E. YOUNG ADULT SERVICES AREA

(If the library plans a young adult services area, indicate requirements using items similar to those above for children's services areas.)

F. SPECIAL PURPOSE AREAS

1. Meeting and/or Conference room(s) (if any) and provide for each.

a. General description of programs and other uses for the room(s).

b. Relationship of meeting and/or conference room(s) to other areas of the library:

(1) Entrance.

(2) Adult area.

(3) Children's area.

(4) Staff area.

c. Number of people to be accommodated _____.

d. Platform facilities needed (if any).

e. Projection facilities.

f. Storage facilities for chairs, tables, etc.

g. Kitchenette facilities, if desire .

2. Typing room(s).

a. ____ No. of typewriters to be accommodated.

b. ____ Location of room(s) and relationship to other major areas.

3. Video Production Facilities.

a. Studio.

b. Control center.

c. Set and equipment storage.

d. Other.

4. Radio Facilities.

a. Broadcasting (AM and/or FM).

b. Citizens' Band for communications.

c. Other.

5. Non-print Media Production.

a. Audio.

b. Film.

c. Captioning.

d. Dry mount.

e. Other.

III. STAFF OFFICES AND WORK AREAS[64]

A. GENERAL RELATIONSHIPS

1. Relationship of staff work areas to other areas of the building.

2. Enumeration of staff offices and work areas.

3. Relationship of staff offices and work areas to one another.

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[64]Discussions of all staff offices and workrooms should include precise information on the requirements for desks, casework (cabinets, and build-ins), storage, sinks, electrical outlets, telephones or other communications devices, and any other special items.

4. Relationship of staff offices and work areas to delivery and/or staff entrance.

B. ADMINISTRATION OFFICES.

1. Receptionist-secretary.

2. Library Administrator.

3. Other administrative staff (if any).

C. PUBLIC SERVICES (Professional other than administrative, Technical Services, extension services).

1. Public Services Supervisor (Head of reference or whatever title is used).

2. Public services staff workroom.

D. TECHNICAL SERVICES WORKROOM

1. Description of technical services activities, including flow diagram.

2. Technical Services Supervisor (Head cataloger or?).

3. Order clerk(s).

4. Cataloger(s).

5. Processor(s).

6. Typist(s)

7. Collections maintenance (mending and binding).

8. Tools:

a. Shelf list.

b. Bibliographic tools.

c. Authority files.

E. CIRCULATION WORKROOM

1. Brief description of circulation routines carried on in the circulation workroom, including overdues and registration (Use flow diagrams where appropriate).

2. Chief Circulation Clerk's office (if necessary).

3. Circulation clerks.

4. Any special equipment used.

5. Files to which access is needed.

F. AUDIO VISUAL OR MEDIA WORKROOM

1. Brief description of work, materials, and staff to be housed.

2. Film service - cleaning, inspection, reservations, and maintenance.

3. Recordings - cleaning, inspection, processing and testing.
    a. Disc.
    b. Tape.
4. Media Preparation and production.
    a. Tape duplication.
    b. Film production (if any).
    c. Video (if any).
    d. Dark room facilities (if needed).
    e. Other.

G. EXTENSION SERVICES WORKROOM (if necessary)
1. Describe extension services maintained by the library.
    a. Branch libraries.
    b. Stations.
    c. Bookmobiles.
    d. Other.
2. Number of staff and their requirements for space.
3. Work flow in Extension Services Department.
4. Number of staff, their duties, and space requirements.
5. Storage requirements for collections related to extensions work.
6. Need for access to delivery and shipping room.
7. Other special requirements and conditions.

H. SPACE REQUIREMENTS FOR SYSTEM AND NETWORK ACTIVITIES
1. Interlibrary loan - unless covered under another topic.
2. Teletype and other electronic communications devices.
3. Special personnel and their requirements.
4. Brief description of activities associated with System and Network participation.
5. Special collection storage requirements (if any).
6. Other needs.

I. OTHER SEPARATE OFFICES OR WORKROOMS (if any)

J. CUSTODIAN WORKROOM
1. Brief description of custodian's duties and responsibilities.
2. Supplies, etc., to be stored.

3. Equipment to be housed.

4. Repair work to be done, if any, requiring shop space.

5. Cleaning facilities needed.

6. Location of auxilliary supply closets and sinks, if any are necessary.

7. Other.

IV. OTHER AREAS

A. DELIVERY.

1. Location of delivery entrance in terms of site considerations.

2. Relationahip of delivery entrance to major areas of the building.

3. Frequency and nature of pick-up and delivery use.

4. Equipment requirements.

a. Receiving counter.

b. Shelving.

c. Sink and electrical outlets.

d. Other.

B. STAFF LOUNGE.

1. Number of staff to be seated at any one time.

2. Number of seats at table(s).

3. Non-table-and-chair seating.

4. Range and refrigerator requirements.

5. Sink.

6. Appliances which will be used by staff (toasters, etc.).

7. Cupboards and other storage.

8. Location and relationship to other major areas of the library.

9. Atmosphere to be achieved.

C. QUIET ROOM.

1. Purpose and use of staff quiet room.

2. Location.

3. Furnishings and decor.

D. PUBLIC RESTROOMS.

1. Separation of restrooms for adults and children.

2. Location of restrooms as related to other building elements.

3. Need for staff supervision from regularly manned stations.

4. Requirements for preventing candalism.

5. Custodial maintenance requirements.

V. MISCELLANEOUS

A. PAGING REQUIREMENTS.

1. Describe process by which returned materials will be sorted and returned to shelves.

2. _____ Number of book trucks needed.

3. Amount of shelving needed for sorting.

B. OUTSIDE BOOK RETURN.

C. SIGNING AND GRAPHICS REQUIREMENTS.

1. Interior.

2. Exterior.

D. COMMUNICATIONS REQUIREMENTS.

1. Telephone.

2. Public address system.

3. Teletype.

4. Fire and instrusion protection.

5. TTY (for deaf).

6. Other.

E. OTHER ITEMS NOT COVERED BY ABOVE OUTLINE OR PECULIAR TO A PARTICULAR LIBRARY.

VI. CONCLUSION

A. RECAP OF DATA IN SUMMARY FORM.

1. Collections to be housed.

2. Public to be seated.

3. Staff to be accommodated.

4. Special space needs.

B. CONCLUDING REMARKS.

APPENDIX C

SUGGESTED QUESTIONS FOR USE IN INTERVIEWING ARCHITECTURAL FIRMS

(Questions should go to architects prior to interview sessions to allow time for preparation.)

1. In projects of this type and size, how would your firm utilize the building program?
2. In what ways and to what degree have you familiarized yourself with our project?
3. If awarded the contract, what steps would your firm take leading up to schematic design?
4. Would you please indicate what you feel your firm's major strengths are in design, and some of its achievements in this field?
5. Please describe the processes your firm will use in solving the design problems presented by this project, indicating approximate proportions of time you would expect to allocate to:
    a. Schematic design.
    b. Design development (preliminaries).
    c. Working drawings and specifications.
6. Based on your present knowledge and concept of our requirements, what do you see as the major design problems and how do you foresee handling these?
7. Since the efficiency of the internal operations of the library will depend upon the effective handling of materials, what experience or expertise does your firm have in this area and how would you approach our materials handling problems?
8. How will your firm approach the interior design? Will you rely upon internal expertise, or utilize the services of an interior design firm? If the latter, what firm or firms would you recommend, and how would the fee be covered?
9. Please supply evidence of your firm's capacity for accurately estimating construction costs on projects similar in size and type as ours.
10. How does your firm arrive at its cost estimates at the end of each stage of planning? Do you ever employ a Cost Engineering Consultand and if so, what firm or firms do you recommend?
11. How will your firm manage construction supervision?
12. Assuming that we, as an owner, provide a Clerk of the Works during construction, how can the work best be organized and supervised for maximum results?

13. Would you please describe your firm's fee structure as it would apply to our project, and indicate what services are included and which you would consider to be outside the contract fee?

14. If we, the owner, request additional technical in-put during the process of planning in such areas as acoustics, lighting, internal communications, etc., how would your firm supply these and how would the fees be covered?

15. What experience has your firm had, and what special expertise would you offer in areas such as automation and data processing, telephonic communications systems, and non-print materials?

16. If, in spite of our best efforts, the project construction bids exceed the allocation of funds, how would you help to determine the best ways for reducing project costs and how would this be reflected in your fees?

17. (A question for large firms.) What opportunities would the client be given to select design and project architects from your staff?

18. (A question for smaller firms.) If we were to decide to retain your firm for this project with the provision that you associate with another firm, which would you select and why? In the case of such a joint venture, please indicate the responsibilities you would delegate to the associate firm. Please comment on the following in this regard:

    a. Design.

    b. Production of drawings and specifications.

    c. Construction supervision.

19. What experience has your firm had with the "Planning Team" approach to projects of this size, and how would you expect to utilize the Planning Team as a resource?

20. Would you please supply us with a list of recent clients from whom we can request recommendations as to your firm's qualifications?

NOTE: If the project is for remodeling and/or expansion, add:

21. Based on your present knowledge and concept of the project, how would your firm propose to handle the design problem of unifying the proposed addition with the existing structure?

22. We believe the aesthetics of the library's exterior and interior are extremely important; how will your firm create a building which has warmth, grace, and a sense of dignity and unity?

BIBLIOGRAPHIC NOTES

The literature concerning library buildings ranges from a few books to numerous articles in periodicals, professional journals and special publications such as proceedings of workshops and institutes. Current periodical materials can best be located by reference to *Readers Guide to Periodical Literature* and to *Library Literature: An Index to Library and Information Science*. The Bureau of Public and Cooperative Library Services can provide invaluable assistance in supplying references to current information sources. The citations below are in no way a comprehensive listing of titles. Some of these, though still basic, are rapidly becoming out-of-date; new publications in this field seem imminent. Therefore, it is important to consult the Bureau for references which may supersede those listed.

GENERAL MATERIALS:

Metcalf, Keyes D. *Planning Academic and Research Library Buildings*. New York: R. R. Bowker Co., 1966.

Myller, Rolf. *The Design of the Small Public Library*. New York: R. R. Bowker Co., 1966.

Nyren, Karl, ed. "Library Space Planning." *LJ Special Report #1*. New York: R. R. Bowker Co., 1976.

Wheeler, Joseph L., and Githens, Alfred. *The American Public Library Building*. Charles Scribner's Sons, 1941.

The Metcalf text, though for academic libraries, is by far the most thorough treatise presently available on library buildings. It is a very useful source of information, regardless of the size or type of building project. Rolf Myller's work is brief but helpful, especially as a point of departure. Although very much out of date, the Wheeler-Githens opus is still frequently cited. The *LJ Special Report No. 1* edited by Karl Nyren contains a variety of recent articles on the planning of library buildings.

ARCHITECTURAL STANDARDS, SYMBOLS AND GRAPHICS:

Callender, John Hancock, ed. *Time-Saver Standards for Architectural Design Data*. New York: McGraw Hill Book Co., 1973.

De Chiara, Joseph, and Callender, John H., etc. *Time-Saver Standards for Building Types*. New York: McGraw Hill Book Co., 1974.

Ramsey, Charles G., and Sleeper, Harold. *Architectural Graphic Standards*. 6th ed. New York: John H. Wiley & Sons, 1970.

These three volumes contain invaluable source materials and should be available for reference purposes. Each title is subject to revision from time to time but the titles remain the same.

BUILDING CODE:

Building and Heating, Ventilating and Air Conditioning Code. Madison: Wisconsin Department of Industry, Labor and Human Relations, 1978.

Construction in Wisconsin is governed by the regulations found in the building code bearing the title given above but officially cited as *Wisconsin Administrative Code Section Ind.* This code is kept current by means of new and replacement pages issued monthly. It is very important for those engaged in a library building project to have a copy of the current code handy.

COMMUNITY STUDY AND ANALYSIS:

Bone, Larry E. "Community Analysis and Libraries." *Library Trends.* Vol. 24, No. 3 (January, 1976). pp. 429-643.

DeProspo, Ernest R.; Altman, Ellen: and Beasley, Kenneth E. *Performance Measures for Public Libraries.* Chicago: American Library Association, 1973.

McClarren, Robert R. "The Community Analysis Survey." *Library Buildings: Innovation for Changing Needs.* Edited by Alphonse F. Trezza. Chicago: American Library Association, 1972. pp. 135-142.

Martin, Allie Beth. *Strategy for Public Library Change: Proposed Library Goals Feasibility Study.* Chicago: American Library Association, 1972.

Warncke, Ruth. *Analysing your Community: Basis for Building Library Service.* Springfield, Ill.: Illinois State Library, 1974.

Of the above, only the McClarren article is focused on the relationship of the community study to library building needs. However, the other references offer valuable information on the conduct of community studies.

INTERIOR DESIGN, INCLUDING FURNISHINGS AND EQUIPMENT:

Gueft, Olga. "Perfectly Orchestrated Civic Core." *Interiors.* Vol. 89, No. 5. (December, 1976). pp. 60-63.

Barkey, Patrick. "Office Landscape: A New Concept for Library Planners." *Library Journal,* December 1, 1969, pp. 4358-4359.

(See also the following titles listed under "Proceedings.")

Guidelines for Library Planners.

The Library Environment: Aspects of Interior Planning.

Library Furniture and Equipment.

The Procurement of Library Furnishings: Specifications, Bid Documents, and Evaluation.

(For recent and current evaluation of various items of furnishings and see issues of: *Library Technology Reports.* Chicago: American Library Association.)

The literature on interior design for libraries as well as for choice of furnishings and equipment is both limited and scattered. Besides the coverage provided in the basic books listed under "General" above, the best material is probably found in the various proceedings of the Buildings and Equipment Institutes conducted periodically by the Building and Equipment Section of the Library Administration and Management Association (formerly the Library Adminstration Division) of the American Library Association. Use periodical literature for current material; information on specific products can be found in the American Library Associasion's *Library Technology Reports*.

PLANNING AND PROGRAMMING LIBRARY BUILDINGS:

The Building Program Statement for a Public Library Construction Project. Wisconsin. Bureau of Public and Cooperative Library Services, Division for Library Services, Wisconsin Department of Education, 1976.

"Writing the Building Program" *Library Building: Innovation for Changing Needs*. Chicago: American Library Association, 1972. pp. 143-151.

In 1976 Wisconsin's Bureau for Public and Cooperative Library Service published the above bulletin in response to the need for a publication addressing the problem of building program preparation for Wisconsin libraries. Other articles of interest can be found in various proceedings of institutes on library buildings, the general books on buildings listed above, and in the current literature.

THE PHYSICALLY HANDICAPED:

"Requirements of Barrier Free Environments." *Wisconsin Administrative Code Section Ind. 52.04*.

American National Standard Specifications for Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped. New York: American National Standards Institutes, 1961. (Currently under revision).

Goldsmith, Selwyn. *Designing for the Disabled*, 3rd ed. London: RIBA Publications Ltd., 1976.

Wisconsin libraries must first be governed by the regulations of the state building code. It is understood that the ANSI standards are undergoing revision and may form the basis for new standards throughout the country. Although published in England, the Goldsmith book is extremely thorough and helpful. Look for many new publications in this field soon.

THE CONSULTANT AND PROJECT REAM:

The Library Building Consultant, Role and Responsibility. Edited by Ernest R. DeProspo. New Brunswick, N. J.: Rutgers University Press, 1969.

"The Role of the Building-Planning Team." *Library Buildings: Innovations for Changing Needs*. Chicago: American Library Association, 1972.

Numerous articles in the proceedings of library building institutes and in library literature pertain to the role of the library building consultant.

MOVING:

Kruth, William H., and Grim, Ray W. *Moving a Library*. New York: The Scarecrow Press, 1966.

This text stands alone in its comprehensive treatment of the subject. Various articles narrating the experience of individual libraries and providing further advice can be traced through *Library Literature*.

SECURITY:

Protection of Library Collections, 1970. (NFPA No. 910) Boston: National Fire Protection Association. 1970.

Hopf, Peter S., ed. *Designers' Handbook of Building Security*. McGraw-Hill Book Co., 1978.

Reber, Jan R. *Manual on Library Security*. New York: The Haworth Press, 1978.

Library Security Newsletter. New York: The Haworth Press. (Quarterly)

Additional publications in the field of security are sure to be forthcoming. *Library Technology Reports* has already done some testing on collection security systems and will no doubt be involved further as new and/or improved systems come on the market.

SITE SELECTION:

"A Public Library Site Symposium" edited by Hoyt Galvin. *Library Space Planning*. (LJ Special Report #1) New York: R. R. Bowker Co., 1976.

"Site Selection." *Library Buildings: Innovation for Changing Needs*. Chicago: American Library Association, 1972. pp. 152-163.

Wheeler, Joseph L. *The Effective Location of Public Library Buildings*. (Occasional Papers No. 52) Urbana: University of Illinois Graduate School of Library Science, 1958.

Wheeler, Joseph L. *A Reconsideration of the Strategic Location of Public Library Buildings*. (Occasional Papers No. 85) Urbana: University of Illinois Graduate School of Library Science, 1967.

The major work on locating public library buildings was done by Joseph L. Wheeler. More recent experience is reported in articles such as those noted above and in items which can be located through *Library Literature*.

ADDITIONAL SOURCES OF INFORMATION:

INSTITUTE PROCEEDINGS:

The following items are citations for the various proceedings of institutes conducted by the Buildings and Equipment Section of the Library Administration and Management Association (formerly Library Administration Division) of the American Library Association. They are presented in alphabetical order by title.

An Architectural Strategy for Change: Remodeling and Expanding for Contemporary Public Library Needs. Edited by Raymond M. Holt. Chicago: American Library Association, 1976.

Guidelines for Library Planners. Edited by Keith Doms and Howard Rovelstad. Chicago: American Library Association, 1960.

Libraries: Building for the Future. Edited by Robert J. Shaw. Chicago: American Library Association, 1967.

Library Buildings: Innovation for Changing Needs. Edited by Alphonse F. Trezza. Chicago: American Library Association, 1972.

Library Environment: Aspects of Interior Planning. Edited by Frazer G. Poole. Chicago: American Library Association, 1965.

Library Furniture and Equipment. Chicago: American Library Association, 1963.

Planning Library Buildings for Service. Edited by Harold Roth. Chicago: American Library Association, 1964..

Problems in Planning Library Facilities: Consultants, Architects, Plans and Critiques. Edited by William A. Katz and Roderick G. Swartz. Chicago: American Library Association, 1964.

The Procurement of Library Furnishings: Specification: Bid Documents and Evaluations. Edited by Alphonze F. Trezza and Frazer G. Poole. Chicago: American Library Association, 1969. 150 pp.

ANNUALS:

"Buildings." *The ALA Yearbook, . . . ,* Chicago: American Library Association.

"Public Library Building." *The Bowker Annual of Library & Book Trade Information.* New York: R. R. Bowker Co.

PERIODICALS:

Library Journal (December 1 issue usually features library buildings with statistical data repeated in the *Bowker Annual.)*

Periodicals (cont.)

Architectural Record. McGraw-Hill Publication (Monthly).

Progressive Architecture. Penton/IPC Reinhold Publications (Monthly).

Interiors. A Billboard Publication (Monthly).

READING BLUEPRINTS.

Hornung, William J. *Blueprint Reading: Interpretation of Architectural Working Drawings*. Englewood Cliffs, New Jersey: Prentice Hall, 1961

Muller, Edward J. *Reading Architectural Working Drawings*. Englewood Cliffs, New Jersey: Prentice Hall, 1971.

The above titles merely suggest two of the many books written to assist those wishing to learn to read architectural drawings with some proficiency. Your architect and/or consultant can no doubt suggest others. Most libraries have one or more titles on this subject in their collections. The Hornung title noted above even has segments containing a few drawings of a small library building project as illustrations.

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